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REPORT

OF THE

Municipal Tuberculosis Commission

TO THE

MAYOR AND CITY COUNCIL

OF

BALTIMORE



1910

BALTIMORE
MEYER & THALHEIMER
PUBLIC PRINTER

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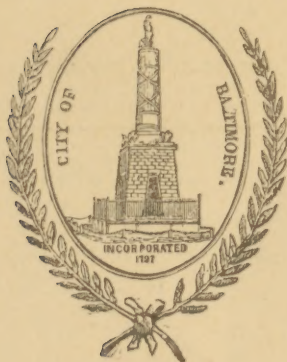
Municipal Tuberculosis Commission

TO THE

MAYOR AND CITY COUNCIL

OF

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1911

THE MUNICIPAL TUBERCULOSIS COMMISSION.

HON. J. BARRY MAHOOL, *ex-officio*,

MR. ROBERT BIGGS,

MR. HENRY S. DULANEY,

DR. HARRY FRIEDENWALD,

DR. JOHN S. FULTON,

DR. THOMAS MCCRAE,

MR. J. B. NOEL WYATT.

EXECUTIVE OFFICERS.

JOHN S. FULTON, *Chairman*.

ALEXANDER M. WILSON, *Secretary*.

G. C. MERRIAM, *Medical Assistant*.

ANNA A. STOKES, *Stenographer*.

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LETTER OF TRANSMITTAL.

BALTIMORE, September 30, 1911.

To the HONORABLE JAMES H. PRESTON,
Mayor of Baltimore.

DEAR SIR:—I have the honor to transmit herewith the report of the Municipal Tuberculosis Commission, which was appointed by your predecessor, the Honorable J. Barry Mahool, on July 2, 1910, in pursuance of an ordinance of the City Council, for the purpose of ascertaining "the causes, prevalence and distribution of human tuberculosis in the City of Baltimore; its relation to the public health and welfare; the cost of said disease to the individual and community, and more particularly the ways and means of best restricting and controlling the said disease." The ordinance required the Commission to "report the results of their investigation to the Mayor on or before October 1, 1910, or as soon thereafter as practicable, for transmission by him to the two branches of the City Council."

The Commission met for the first time on July 7. Dr. Friedewald, Mr. Dulaney and Mr. Wyatt undertook to secure the services of an experienced executive secretary. Mr. Biggs consented to act as secretary until a permanent secretary should be appointed. Doctors McCrae and Fulton undertook to prepare an outline of the necessary investigation. Through the intervention of the Mayor, and the courtesy of President Cherry, the Commission was quartered in the room of the President of the First Branch of the City Council. The Commission was fortunate in securing the services of Mr. Alexander Wilson, Director of the Sociological Department of the Henry Phipps Institute, who began active duty as executive secretary on July 13, when, with the addition of Mr. G. C. Merriam, medical assistant, and Miss A. A. Stokes, stenographer, the office force was completed and active work was begun. The twelfth meeting of the Commission was held on the 23rd of September; and, on the 30th, the provisional recommendations were presented at a joint meeting of the Commission with the Advisory Committee, held in the Mayor's reception room. Thirty-five members of the Advisory Committee were in attendance, and the discussions were both spirited and helpful.

While it was found impossible to present a full report within the time specified by the ordinance, the Commission was able to present its recommendations in the form of a preliminary report, which was handed to the Mayor on November 15, together with a letter of the chairman requesting that an appropriation might be included in the Ordinance of Estimates, for the use of the Health Department, in establishing municipal dispensaries. The Board of Estimates declined to consider this proposal on the ground that the time limit for consideration of new appropriations had expired.

Besides the recommendations which formed the preliminary report, the following pages contain a statistical and economic consideration of the city's tuberculosis experience. This study necessarily waited on the announcement of the population figures by the Federal Census, and the separate counts of white and colored population have only recently become available. This racial distinction is of peculiar importance, as the report will show. The report ends with an appendix, which describes the basis of experience and reason underlying the recommendations.

The report as a whole is respectfully submitted to your Honor, with the request that it may be transmitted, in accordance with the ordinance, to the two branches of the City Council.

I have the honor to be, sir,

Yours very respectfully,

JOHN S. FULTON, *Chairman.*

ORDINANCE CREATING COMMISSION.

An ordinance to create a commission of (seven) persons to be known as the Municipal Tuberculosis Commission, who shall determine the best means of restricting and controlling human tuberculosis in the City of Baltimore and to request the Board of Estimates to appropriate, out of the Contingent Fund, so much money as may be necessary in their judgment to meet the expenses of said Commission.

PREAMBLE.

WHEREAS, The disease known as tuberculosis is causing annually over fourteen hundred deaths in Baltimore; and

WHEREAS, The said disease is causing heavy financial loss to the City of Baltimore—a sum estimated at several million dollars annually; and

WHEREAS, The dependency, financial loss, suffering and death caused by the said disease can be, in whole or in part, prevented.

MUNICIPAL TUBERCULOSIS COMMISSION CREATED.

SECTION 1. Be it ordained by the Mayor and City Council of Baltimore, That the Mayor be and he is hereby authorized to appoint (six) persons as members of a commission to constitute with himself, the said Mayor ex-officio, a commission of seven to be known under the title and designation "Municipal Tuberculosis Commission."

GENERAL DUTIES.

SEC. 2. The said Municipal Tuberculosis Commission shall investigate the causes, prevalence and distribution of human tuberculosis in the City of Baltimore; its relation to the public health and welfare; the cost of the said disease to the individual and community, and, more particularly, the ways and means of best restricting and controlling the said disease.

TO INVESTIGATE EXISTING MEANS OF CONTROL AND PROVIDE FOR THEIR EXTENSION.

SEC. 3. The said Municipal Tuberculosis Commission shall investigate and report upon the facilities available for the treatment of open cases of tuberculosis in hospitals, sanatoria and other in-

stitutions, and the per capita cost of such treatment. It shall investigate the facilities available for dispensing and home treatment and regulation by physician and nurses. It shall investigate all other means of relief and control available from the State, city and private sources and determine the most effective and economical plan by which these means can be further extended, enlarged and co-ordinated.

TO SERVE WITHOUT PAY.

SEC. 4. The members of the said Municipal Tuberculosis Commission shall serve without pay, and shall report the results of their investigations to the Mayor on or before October 1, 1910, or as soon thereafter as practicable, for transmission by him to the two branches of the City Council.

ADVISORY COMMITTEE.

SEC. 5. The Municipal Tuberculosis Commission may appoint an advisory committee to assist the said Commission; said advisory committee shall serve without pay. The members of said advisory committee, or any of them, may sit with the said Commission, when requested by the said Commission to do so, and take part in the deliberations of said Commission; but the said members shall have no vote.

APPROPRIATION.

SEC. 6. That the Board of Estimates be requested to appropriate, out of their Contingent Fund, so much money as in their judgment may be necessary to provide such stationery, and to defray the cost of such stenographic and clerical assistance as may, in the judgment of the said Commission, be necessary; said Commission being hereby authorized to incur such expenses and pay for such assistance and to employ a secretary, if in the judgment of the said Commission it may be necessary.

CONFIRMATION BY SECOND BRANCH.

SEC. 7. And be it further ordained, That the Commission appointed by the Mayor shall be confirmed by the Second Branch City Council.

THE SITUATION IN BALTIMORE IN 1910.

The Baltimore Municipal Tuberculosis Commission, on undertaking its labors on July 7, 1910, found this to be the status of the campaign against tuberculosis in the city.

An aggressive private association, The Maryland Association for the Prevention and Relief of Tuberculosis, has been in existence since 1904 and has done much in arousing the interest and support of the public in anti-tuberculosis measures.

Through two State commissions, created in 1902 and 1904, a broad foundation was laid for constructive legislation dealing with tuberculosis.

Registration of cases was requested of physicians by a city ordinance passed in 1896. In 1904 Maryland passed the first effective State law requiring registration of cases, a measure which is being satisfactorily enforced. Prophylactic supplies are furnished to patients free of cost by the State Health Department.

In 1909 two tuberculosis nurses were employed by the Health Department, this number being increased to fifteen on January 1, 1910.

Rooms occupied by consumptives are disinfected by the Health Department.

A fumigation plant is under process of erection for the more complete disinfection of clothing, bedding, etc.

Free examinations of sputum have been made since 1897 in the bacteriological laboratory of the Health Department.

An ordinance forbidding spitting on sidewalks has been in existence for several years, but is little enforced.

The State maintains a sanatorium, for the treatment of early cases, at Sabillasville, opened 1900, having a capacity for 200 patients. This is now being enlarged to accommodate 300 patients.

Earlowood Sanatorium (Hospital for Consumptives of Maryland), established 1896, is supported by voluntary contributions, assisted by an annual appropriation from the State. It accommodates in the sanatorium proper 52 early cases; in Bloede Cottage, 34 advanced cases; and on the farm, 12 arrested or cured patients.

The Jewish Home for Consumptives, Reisterstown, opened 1908, will care for 52 patients on the completion of the ward now being constructed. The provisions for early and advanced cases are about equal.

Baltimore Municipal Tuberculosis Hospital, Bay View, opened 1904, and operated by the Supervisors of City Charities, has a capacity for 160 patients, nearly all in advanced stages of tuberculosis.

LETTER ACCOMPANYING THE PRELIMINARY REPORT.

BALTIMORE, November 15, 1910.

HON J. BARRY MAHOOL,
Mayor of Baltimore.

SIR—I have the honor to transmit herewith a preliminary report of the Municipal Tuberculosis Commission. It presents the conclusions reached by the Commission, but not the information and evidence which have led to these conclusions. The Commission will prepare a somewhat longer document, which will enable your Honor and the members of the City Council to consider the several recommendations without haste and with full information.

We are gratified in this opportunity to say that the Commission has not been required to consider the beginnings of a movement against tuberculosis. With a registration law, a bacteriological laboratory, a corps of special nurses, sanatoria and dispensaries, an active voluntary association, and a well-informed public opinion, the means of progress are already provided. It is our privilege, therefore, to plan a forward movement from an advanced position.

Several of our recommendations concern only the expansion or improvement of existing agencies. One such recommendation relates to municipal tuberculosis dispensaries. It may be said fairly that the city has been and will continue to be enriched by the activities of private dispensaries already in existence, and that, with the two additional dispensaries recommended to be operated by the Health Department, Baltimore will be as well served as any city of which we have knowledge, and at as little expense. The admirable example founded and

supported by Mr. Phipps will enable us to secure a high quality of public service in the municipal dispensaries, and we hope that the city will provide these necessary instrumentalities without delay.

The most important new recommendation of the Commission is the establishment of a hospital for advanced cases. This is an expensive undertaking, and will require a loan. The reasonableness of this recommendation, therefore, may be examined deliberately in the interval before the next General Assembly of Maryland.

The experience of the civilized world is now being searched by special commissions, in the hope that the cost of tuberculosis hospitals and sanatoria may be reduced to a basis more favorable to public necessity and to public funds. Perhaps by the time the hospital project is actually undertaken, the Commission may be able to point a way to possible saving of some sort, either in initial outlay or in nearer approach to the existing public need. At all events, the Commission expects to be informed about progress made in the interval.

One feature of the local tuberculosis problem has given the Commission particular concern, namely, the excessive prevalence of the disease among negroes. Here, as elsewhere, the negroes are attacked in very disproportionate numbers; they are less able and more reluctant than whites to seek medical advice, and public provision for their relief is relatively less than for whites. We are convinced that the issue of the contest against tuberculosis depends largely on the success of special efforts to control the disease among the colored population. The suggestions contained in the preliminary report indicate the clear convictions of the Commission on this subject, but not, we hope, the limits of the Commission's resourcefulness. With time in which to consider this difficulty as a somewhat separate problem, the Commission may submit additional recommendations in a later report.

Some of the recommendations have to do with general prophylaxis, rather than with the specific prophylaxis of tuberculosis. Such are the recommendations concerning public education, housing conditions, and the conditions of wage-earning. We attach great importance to those suggestions which will naturally be referred to the School Board. These suggestions are made notwithstanding the statistical evidence that tuberculosis, in proportion to the numbers exposed, is less frequent during the period of school attendance than at any other period of life. It seems clear to us that the education which the State provides for every child, can and should bring children to the status of working citizens physically able and knowing how to meet successfully the usual tests which actual work brings to bear on intelligence, character and bodily strength. These tests have, as a rule, searched out and marked the unfit before the age of twenty-five. At the age of twenty-five, the population of Baltimore is divided into two equal groups—280,000 being older and 28,000 younger than that age. Above that age, the profits which we are able to foresee will be secured at relatively high cost, by dealing with the *separate instances* and the *declining values* of adult life. Below that age, on the other hand, we may deal with the *great numbers* and the *growing values* of childhood. We believe that the campaign against tuberculosis may be materially shortened, with a corresponding mitigation of its cost, by steadily improving the natural immunity of that unfailing majority which streams through the schools into the city's working population.

Concerning the endemic magnitude of tuberculosis in Baltimore, the Commission has no startling figures. The mortality records appear to show a slight rise during the last five years. We distrust this appearance, believing that tuberculosis has simply become better recognized by reason of the concentration of attention during recent years. It would be more reasonable to interpret the figures backward in time, and say that tuberculosis is slowly declining, though the decline is

taking place at levels somewhat higher than we formerly supposed. The situation is looked upon as encouraging, and there is sound reason to believe that persistent effort, in lines now clearly indicated, will bring substantial reward in greater bodily vigor, and a status of efficiency more securely held, among the population now in process of making.

The ordinance creating the Commission authorized the appointment of an Advisory Committee, and such a committee has been formed. A list of the members is hereto appended. Many useful communications have been received from members of this Committee, and a joint meeting has been held at which there was a large attendance and a spirited discussion. Through this Committee, the Commission has recourse to authoritative advice on a number of contingent questions, concerning which the Commission itself has not expert knowledge, but which require expert consideration in relation to the purpose of the Commission.

We think that this provision of the ordinances has led to the formation of a group of thoughtful citizens who will continue, after the official life of the Commission has expired, to exercise a useful function in the tuberculosis campaign and to the advantage of official dealings in future with the tuberculosis problem.

I have the honor to be, sir,

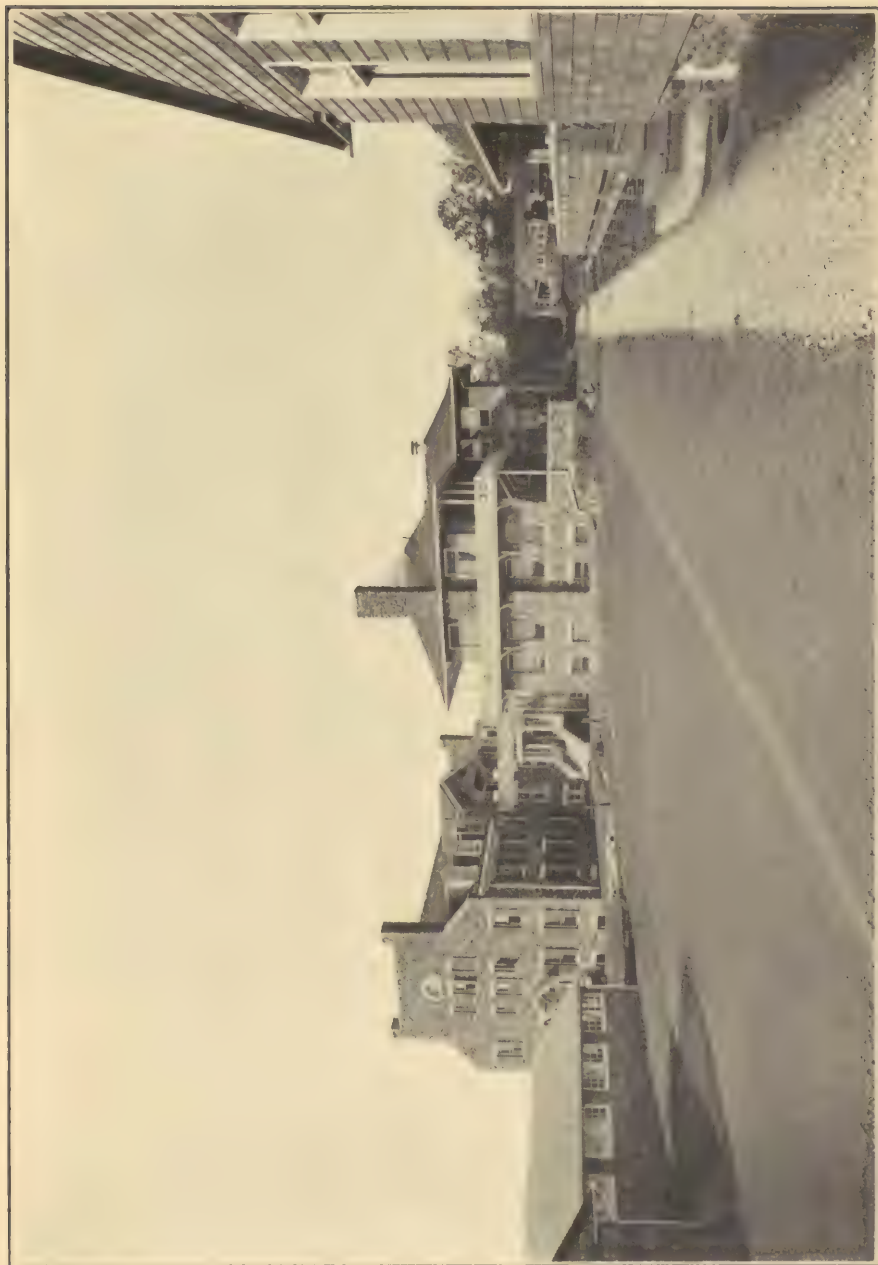
Yours very respectfully,

JOHN S. FULTON, *Chairman.*

ADVISORY COMMITTEE.

- Dr. John J. Abel, Johns Hopkins University.
Prof. Joseph S. Ames, 225 West Preston street.
Dr. Caleb N. Athey, 1902 Eastern avenue.
Mr. Joseph W. Brooks, Keyser Building.
Mr. Victor G. Bloede, Station G, Baltimore.
Dr. James Bosley, Health Department, City Hall Annex.
Mr. W. G. Bowdoin, Jr., 700 Maryland Trust Building.
Miss Elizabeth Brown, 923 H street N. W., Washington,
D. C.
Dr. H. Warren Buckler, 806 Cathedral street.
Dr. David H. Carroll, Continental Trust Building.
Mrs. B. W. Corkran, 200 Goodwood Gardens, Roland Park.
Mr. Jacob Epstein, 2532 Eutaw Place.
Mr. Isaac S. Field, 2117 Twelfth street.
Prof. Hans Froelicher, 118 East Twenty-fourth street.
Mr. A. S. Goldsborough, 2712 St. Paul street.
Mr. Robert Garrett, 506 Continental Trust Building.
Rev. John Gaynor, Sparrows Point.
Dr. John Girdwood, 102 East Twenty-fifth street.
Mr. N. G. Grasty, Supervisors of City Charities, City Hall.
Mr. B. Howell Griswold, Alexander Brown & Sons.
Dr. A. Guttmacher, 2239 Brookfield avenue.
Mr. Clayton C. Hall, 10 South street.
Dr. Louis Hamman, 2506 Madison avenue.
• Mr. Calvin W. Hendrick, American Building.
Dr. W. Frank Hines, 6 East Franklin street.
Mr. Edward Hirsch, 27 Franklin Building.
Mr. Charles Morris Howard, 700 Equitable Building.
Prof. J. H. Hollander, 1802 Eutaw Place.
Dr. Henry M. Hurd, 1023 St. Paul street.
Dr. Henry Barton Jacobs, 11 West Mount Vernon Place.

- Dr. C. Hampson Jones, Health Department, City Hall Annex.
Rev. George L. Jones, 15 East Pleasant street.
Dr. Howard A. Kelly, 1418 Eutaw Place.
Dr. J. H. Mason Knox, Jr., 804 Cathedral street.
Miss Ellen N. LaMotte, 1123 Madison avenue.
Miss M. E. Lent, 1123 Madison avenue.
Mr. Louis Levin, 411 West Fayette street.
Dr. H. D. McCarty, 613 Park avenue.
Mr. J. W. Magruder, 15 East Pleasant street.
Mrs. Daniel Miller, 605 Park avenue.
Rt. Rev. John G. Murray, 1106 Madison avenue.
Mr. Wm. H. Morriss, Y. M. C. A., Franklin and Cathedral streets.
Dr. Eugene A. Noble, Goucher College.
Dr. Charles O'Donovan, 5 East Read street.
Dr. J. Hall Pleasants, 16 West Chase street.
Dr. Marshall L. Price, State Department of Health, 6 East Franklin street.
Mr. Lawrason Riggs, 632 Equitable Building.
Dr. Mary Sherwood, The Arundel.
Mr. H. Wirt Steele, 15 East Pleasant street.
Dr. William R. Stokes, Health Department, City Hall Annex.
Mr. John T. Stone, Maryland Casualty Building.
Mr. Jesse Slingluff, Maryland Trust Building.
Mr. John E. Semmes, 825 Equitable Building.
Dr. W. S. Thayer, 604 Cathedral street.
Mr. James H. Van Sickle, 1519 Linden avenue.
Dr. William H. Welch, 807 St. Paul street.
Dr. Lilian Welsh, The Arundel.
Dr. J. Whitridge Williams, 1128 Cathedral street.
Dr. Gordon Wilson, 1318 North Charles street.
Dr. Samuel Wolman, 2101 Brookfield avenue.
Dr. Hiram Woods, 842 Park avenue.
Mr. Douglas M. Wylie, 412 North street.



MARYLAND TUBERCULOSIS SANATORIUM, SABILLASVILLE

PRELIMINARY REPORT OF THE MUNICIPAL TUBERCULOSIS COMMISSION.

To the Mayor and City Council of Baltimore:

Your Commission met for organization July 7, 1910, and since then has held fourteen stated meetings at which measures for the treatment and control of tuberculosis have been considered in great detail. Our recommendations, which follow, throw the burden of work on the Health Department, for this is distinctly a health problem and it is important at the beginning to make this fact clear. Added responsibilities will have the effect of centering interest in the work of the Health Department, where an undivided control should make possible the greatest efficiency in dealing with tuberculosis. The Health Department has made a good beginning with its tuberculosis nurses. We would add to this equipment a hospital for the care of advanced cases and a dispensary system that will enable the Health authorities to control more fully the patients who must remain at home.

We believe that measures that will assure better conditions at home, at work and at school are important in the prevention of tuberculosis and several of our recommendations are directed to this end.

In fulfillment of our commission we submit the following recommendations:

I. IMMEDIATE MEASURES OF CONTROL.

A. Hospital Care of Advanced Cases. (Appendix "A," page 68.)

Probably the most important single factor in combating tuberculosis is the segregation of advanced cases in hospitals.

Baltimore offers only the Municipal Tuberculosis Hospital, a department of the Infirmary at Bay View.

An institution should be built which will be dissociated as far as possible from the almshouse, with all the disagreeable associations this involves, and maintained on a scale that will encourage patients to resort to it.

We recommend:

1. That a hospital accommodating 300 or more patients and costing \$300,000 be erected on the city property east of the present Sydenham Hospital.
2. That the hospital be under the control of the Commissioner of Health.
3. That on the completion of the new hospital, the present Municipal Tuberculosis Hospital be transferred from the Supervisors of City Charities to the Department of Health, and used for the care of colored patients.
4. That the hospital shall be named in honor of some distinguished student of tuberculosis.
5. To carry out the above, that the Legislature at its next session be asked to enact legislation enabling the City of Baltimore to issue bonds to the amount of \$300,000 for the purpose herein indicated; and that the Mayor and City Council, and in turn the citizens of Baltimore, be urged to vote for such a bond issue.

B. Special Dispensaries for Tuberculosis. (Appendix "B," page 77.)

The tuberculosis dispensary has within a few years taken an important place among preventive measures. The Phipps Dispensary at the Johns Hopkins Hospital performs a valuable service to the community at present, but its location prevents it from serving all parts of the city with equal efficiency. Tuberculosis clinics maintained by the University of Maryland and Christ Church have pointed the way for the establishment of like service at other general dispensaries. In two sections of the city (the Northwestern and the South-



MUNICIPAL HOSPITAL FOR TUBERCULOSIS

ern), which are remote from other medical agencies, it is desirable that special institutions be established.

We recommend:

1. That the city be divided into dispensary districts as follows:

District 1 (Eastern District)—Including all east of Jones Falls.

District 2 (Northwestern District)—West of Jones Falls and north of Franklin street.

District 3 (Central District)—Bounded on the north by Franklin street, on the east by Jones Falls, on the south by Pratt street, Frederick avenue and Frederick road.

District 4 (Southern District)—Bounded on the east by Jones Falls and the Patapsco River, on the north by Pratt street, Frederick avenue and Frederick road to the city limits.

2. That in each district the Health Department establish a special tuberculosis dispensary with physicians on salary, except in those districts where private agencies are adequate to meet the requirements of the Health Department.

3. That the Municipal Tuberculosis Nurses be assigned to the district dispensaries during clinic hours.

4. That the Health Department co-operate with any general dispensary at which a proper special tuberculosis clinic is established, by assigning nurses during clinic hours and by revising the district boundaries.

C. Special Work for Negroes. (Appendix "C," page 89.)

The high frequency of tuberculosis among negroes makes it important that vigorous methods be adopted to stop its inroads. Negroes come into very close association with whites as domestic servants, and both on this account and as a protection to the rest of the population, should receive special care.

We recommend:

1. That special effort be made to encourage negroes to resort to the hospitals and dispensaries provided for the treatment of tuberculosis.
2. That on completion of the new tuberculosis hospital the present Municipal Tuberculosis Hospital at Bay View be used for colored patients.
3. That the Board of Managers of the Maryland Tuberculosis Sanatorium be requested to consider the question of sanatorium provision for negroes.

D. Provision for Children. (Appendix "D," page 93.)

There were on August 15, 1910, 172 children of school age with tuberculosis known to the Municipal Tuberculosis Nurses. There is little provision for this class of cases.

We recommend:

1. That all children with open tuberculosis be excluded from the public schools.
2. That a separate ward building be set aside for the treatment of children with early tuberculosis at the Maryland State Sanatorium at Sabillasville.
3. That a separate ward be established for the care of children with advanced tuberculosis in the new Municipal Tuberculosis Hospital.
4. That anaemic and under-developed children, not definitely tuberculous, be placed in open-air rooms in the ordinary public schools.
5. That in new school buildings, one or more open-air rooms be provided, especially adapted for children needing more than the usual supply of fresh air and sunshine.



EUDOWOOD SANATORIUM. BLCEDE COTTAGE FOR ADVANCED CASES. TOWSON, MD.

E. Bacteriological Examinations.

We recommend:

That the Health Department establish several stations throughout the city where physicians may leave specimens for bacteriological examination, and from which there shall be daily collections.

F. Registration of Cases.

We recommend:

That there shall be complete reciprocity between the State Department of Health and the City Health Department in the registration of cases of tuberculosis.

G. Spitting Nuisance.

We recommend:

1. That the spitting ordinance be enforced.
2. That there shall be especially rigid enforcement of the spitting ordinance in the vicinity of markets and other places where foods are exposed for sale.

II. CLOSELY RELATED PREVENTIVE MEASURES.

A. Housing.

Tuberculosis is closely associated with housing conditions, and any move in the direction of better housing is a flank attack on tuberculosis.

We recommend:

1. That the definition of a "tenement house" be broadened by being made to include houses occupied by two families.
2. That the force of tenement-house inspectors be increased by the addition of two inspectors, one of whom shall be a woman.

B. Factory Inspection.

The workingman spends his day under sanitary conditions over which he can exercise but little control. He should be assured of proper conditions under which to work by adequate factory legislation and proper enforcement by the State. The enforcement of factory legislation in Maryland is for the most part by the State Bureau of Statistics and Information.

We recommend:

Legislation that will assure—

- (a) Proper ventilation of factories.
- (b) That proper cuspidors be provided by the owners in all factories, and proper provision made for their cleansing.
- (c) That the enforcement of proper sanitary conditions in factories be in the hands of qualified medical inspectors.
- (d) That the legal age for beginning work be increased for all children to fourteen years.

C. Hygienic Practices in Public Buildings.

The city should, in its own buildings, set an example of good housekeeping.

We recommend:

1. That, through the appropriate channels, orders be issued to superintendents, janitors, cleaners, and scrub women, in all buildings owned by the city, forbidding dry sweeping and dusting.
2. That carpets be removed from City Hall.
3. That vacuum cleaning systems be installed in all city buildings.
4. That cuspidors in all public buildings be kept partially filled with a proper disinfectant solution, and that safe methods be adopted for handling and cleansing them.



EUDOWOOD FARM. CANVALESCENTS AT WORK. AN EXPERIMENT IN AFTER-CARE.

D. School Buildings.

There is a wide divergence between the best teaching on hygiene and the actual practices in vogue in most public schools. This is especially true of the ventilation of school-rooms.

We recommend:

1. That in all school buildings, new or old, the windows of schoolrooms be opened wide during the whole of each recess period and again at noon.
2. That windows be thrown wide open each day while the pupils are being drilled in calisthenics.
3. That the common drinking cup be abolished from all school buildings, the bubbling fountain or some equally good substitute being installed.
4. That dry sweeping and dusting of schools be forbidden, the vacuum cleaning process being installed if practicable.
5. That floors be scrubbed at least once a month.

E. Medical Inspection of Schools.

We believe that there are two separate fields of hygiene as related to schools. The first concerns the schools as disseminators of disease, and clearly belongs to the Department of Health; the other concerns the promotion and defense of the health of school children and includes their physical education. This field belongs quite as distinctly to boards of education as the other to boards of health.

We recommend:

1. That the School Board create a Bureau of School Hygiene under a director, who shall give all his time to his office, and shall be responsible for the physical education of school children and for the teaching of hygiene in public schools.
2. That in the teaching of hygiene, especial emphasis be laid on home hygiene.

F. Teaching of Cooking in the Public Schools.

Malnutrition is one of the principal predisposing causes of tuberculosis, and is due in large part to ignorance of food values and to poor cooking. The teaching of cookery is well established in the Baltimore schools and should be recognized as having an important bearing on the health of coming generations.

We recommend:

1. That the courses of cooking be extended to include all girls in the seventh and eighth grades.
2. That especial effort be made to secure attendance of the mothers of delicate children at the evening classes in cooking.

G. Child Hygiene.

The high death rate among babies during the summer months, and the high sickness rate, have been met in some cities by the organization of especial work to combat them. Sickness in infancy must leave as its effect a lowered resistance to disease in after life. Moreover, there is a very considerable frequency of tuberculosis in early childhood.

We recommend:

1. That the Health Department create a Bureau of Child Hygiene, which shall concern itself chiefly with the diseases of infancy.

Respectfully submitted,

JOHN S. FULTON, M. D., *Chairman,*
J. BARRY MAHOOL, *Mayor, ex-officio,*
ROBERT BIGGS,
HENRY S. DULANEY,
HARRY FRIEDENWALD,
THOMAS MCCRAE, M. D.,
J. B. NOEL WYATT,

Municipal Tuberculosis Commission.

ALEXANDER M. WILSON, *Secretary.*



EPSTEIN MEMORIAL BUILDING—JEWISH HOME FOR CONSUMPTIVES, REISTERSTOWN.

STATISTICAL AND ECONOMIC CONSIDERATIONS.

POPULATION—AGE DISTRIBUTION.

The study of a local health problem presupposes an acquaintance with the population of the locality. A single characteristic, that of age distribution, often suffices to distinguish one city from any other. The three charts shown here are so unlike that any intelligent tyro, after five minutes' study, could make a lasting acquaintance with them, and could distinguish unerringly among them, without the aid of the lettering or the numerals. It need hardly be said that the chances of death cannot score in the same way on populations as different as these. It may be asked whether these peculiar age distributions are regularly characteristic of the populations which they describe. They are characteristic, though not quite stable. Their changes from year to year or from decade to decade are not more marked than the changes one may note in his friends from month to month, or from year to year.

The most important numerical differences are found in the first twenty-five years of life. One-eighth of the aggregate population of the country is under the age of five years. Baltimore has one-tenth (9.95) per cent., and Washington one-twelfth (8.32) per cent. in that age period. Both the cities are relatively feebler than the aggregate population in numbers under the age of 5 and above 60. So it is with all cities. The rural populations strengthen the aggregate population in the first few years of life, and in extreme old age.

About the age of 25, each of the charts shows a hump, very exaggerated in the case of Washington, quite marked in the case of Baltimore, but not at all striking in the aggregate population. This excess of population between the ages of 15 and 40, like the deficiency under 5, is characteristic of

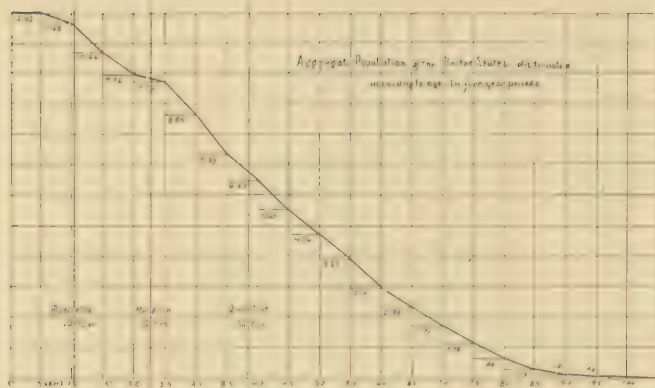


CHART No. 1.

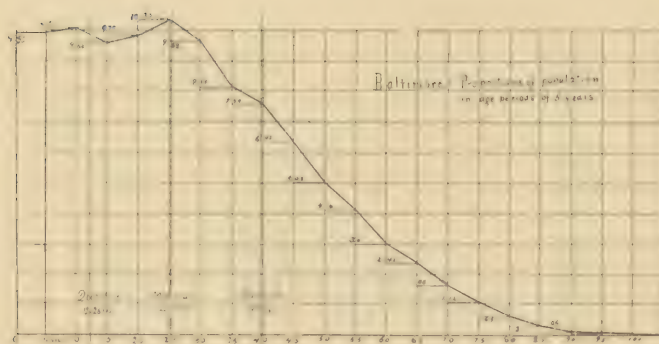


CHART No. 2

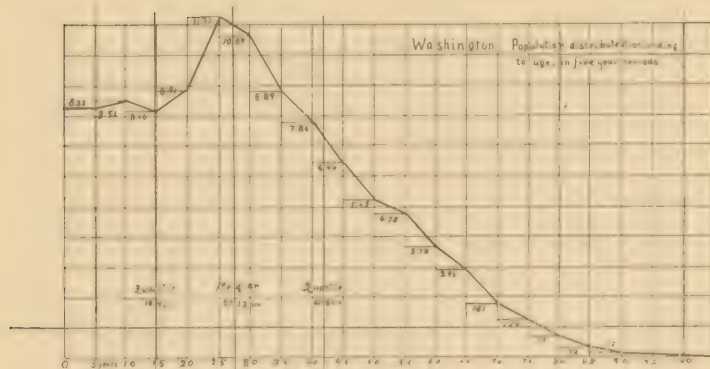


CHART No. 3.

all urban populations. It shows how cities grow at the expense of smaller communities and of rural populations, and the effect of this migration is marked by a depression in this part of the profile of the rural population. The slight hump which one observes in the aggregate population, between the ages of 15 and 35, shows how our country, as a whole, grows at the expense of other countries. The hump at 25, therefore, indicates the point at which the stream of foreign immigration pours into the aggregate population, and the point at which the urban populations receive, in addition, the currents of internal migration.

The charts also show how each population may be divided into halves, and then into fourths. If a population of 500,001 were counted one by one, from the youngest upward in the order of age, number 250,001 would be older than the 250,000 preceding him, and younger than the 250,000 following him in the order of age. The age of this individual, No. 250,001, is the "median age" of the population. Each half is then divided in the same way. Two lines called "quartiles," indicate, in the younger half, the position of that theoretical citizen who is older than one-fourth and younger than three-fourths of the total population; and, in the older half, the

position of the theoretical citizen who is older than three-fourths and younger than one-fourth of the total population.

The aggregate population has its median age at 22.9 years; the population of Baltimore is half counted at 25.15 years; the population of Washington at 27.23 years. The aggregate population counts the first quarter of its number at the age of 10.55 years, and its third quarter at 38.7 years. Baltimore has one quartile at 12.26 years and the other at 39.9; Washington's quartiles are at 14.9 and at 41.8 years. One might say, therefore, that the aggregate population is younger than either of the cities, and Washington older than Baltimore. That is perhaps a fair distinction so far as the aggregate population is concerned, but as between the two cities it is a doubtful distinction. All cities borrow youth, and Washington in this respect is a grosser parasite than Baltimore. Vigorous young cities, such as St. Paul, Milwaukee, Seattle, Los Angeles, are like Washington, very strong in numbers around the age of 25. But the resemblance between Washington and the fast-growing Western cities is illusive and transitory. For the age distribution of urban populations in the West will change, as years pass, toward the Baltimore type; while the Washington pattern is likely to be but slightly altered, remaining unique among American cities, and in violent contrast with all other cities on the Atlantic Coast. Eastern cities of approximately the age of Baltimore have populations distributed in much the same way as Baltimore; not so much alike as to be mistaken one for another, but showing their kinship.

From the viewpoint of tuberculosis, these distinctions are important, because tuberculosis lays its heaviest tax on the years from 15 to 40. Examination of the three charts would therefore lead one to expect all cities to have higher death rates from tuberculosis than that of the aggregate population; and, as between any two cities, the lower tuberculosis death rate would be expected in the city having relatively fewer

people between 15 and 40 years of age. Other things being equal, this expectation would prove sound: Baltimore could claim no superiority to Washington on account of a lower tuberculosis death rate.

MORTALITY—AGE DISTRIBUTION.

The pattern of the population chart largely determines the pattern of the mortality chart. The next three charts show the mortality of Baltimore, of Washington, and of the registration area, distributed according to age.

The mortality of the registration area cannot quite fairly be compared with the aggregate population, but we are obliged to use that mortality, because it is more accurate than the mortality of the aggregate population. We cannot use the population of the registration area, because we do not know the age distribution of that population. The registration area, in 1908, included one-half of the aggregate population, and has probably enough rural population to give the same profile and, therefore, serve the present purpose.

One observes that the proportionate mortality of the registration area, between the ages of 15 and 60, is less than that of Baltimore or of Washington. In Washington, half the dead have been counted at the age of 41.4 years, or 14.17 years above the median age of the living, and 5 months under the third quartile of the living (41.8 years). In Baltimore, half the dead are older and half younger than 37.1 years, so that the median age of the dead is 11.95 years older than the median age of the living (25.15 years), and 2.9 years younger than the third quartile of the living (39.9 years). Three-fourths of the dead in Washington are 63.4 years old, or older; and in Baltimore, three-fourths of the dead are 61.05 years old, or older. The last quartile of the dead in the registration area begins at 64.3 years.

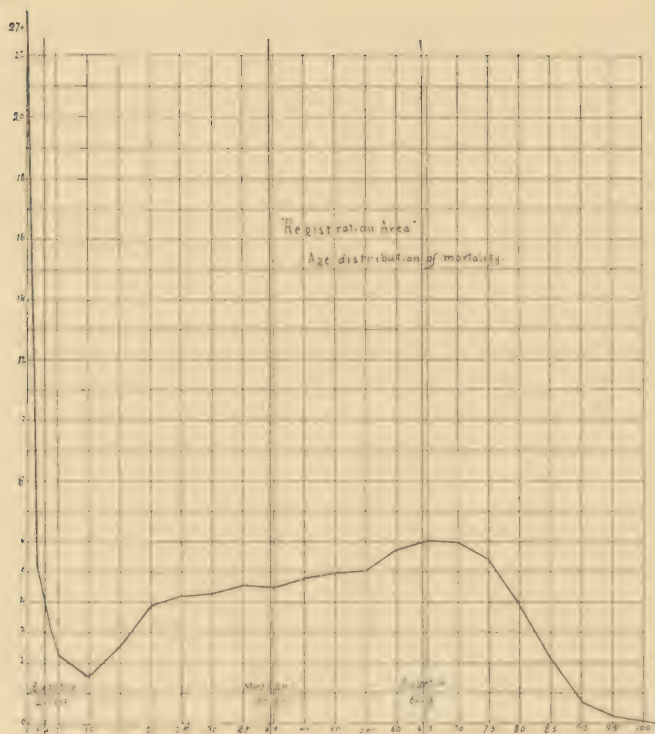


CHART NO. 4.

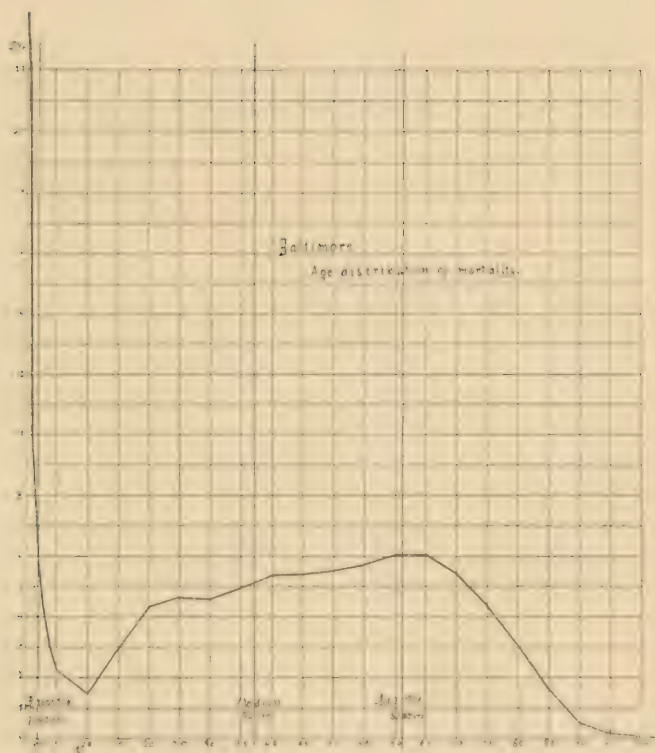


CHART NO. 5.

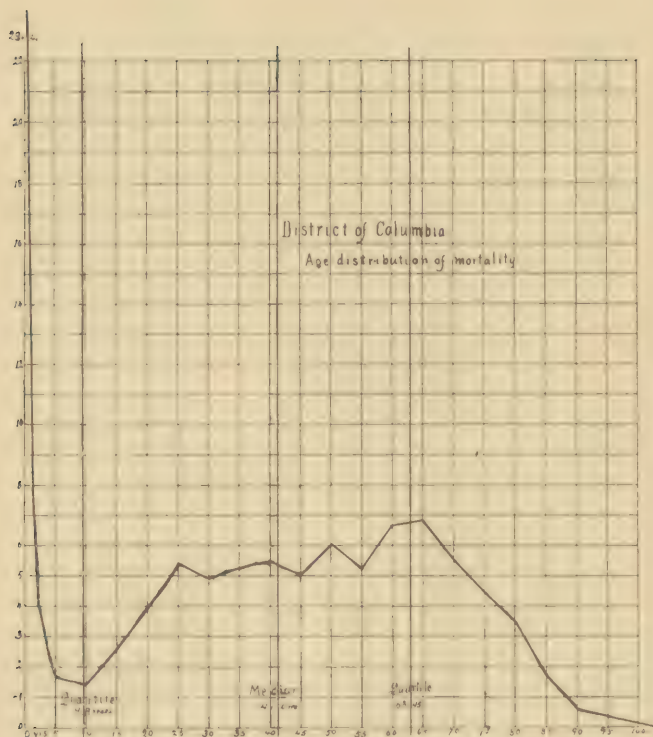


CHART NO. 6.

The first quartile of the dead in Baltimore is reached at the age of 1.92 years, or 10.34 years younger than the end of the first quartile of the living (12.26 years). Washington counts one-fourth of her dead at 9.9 years, or 5 years younger than the end of her first quartile of the living (14.9). The first quartile of the registration area ends at the age of 2.68 years. American cities in general count the first quarter of their dead at the age of 1.81 years.

The next chart (No. 7) shows the population of Baltimore charted on a more liberal vertical scale. Instead of the rough polygons shown in the preceding charts, we have made a smoother curve by dividing each five-year group into five one-year groups. A rectangle one division high and one-fifth of a division wide is supposed to account for 650 people; so that the distance between the base line and any point in the curve, being multiplied by 650, will give the population at the age which the chosen point defines.

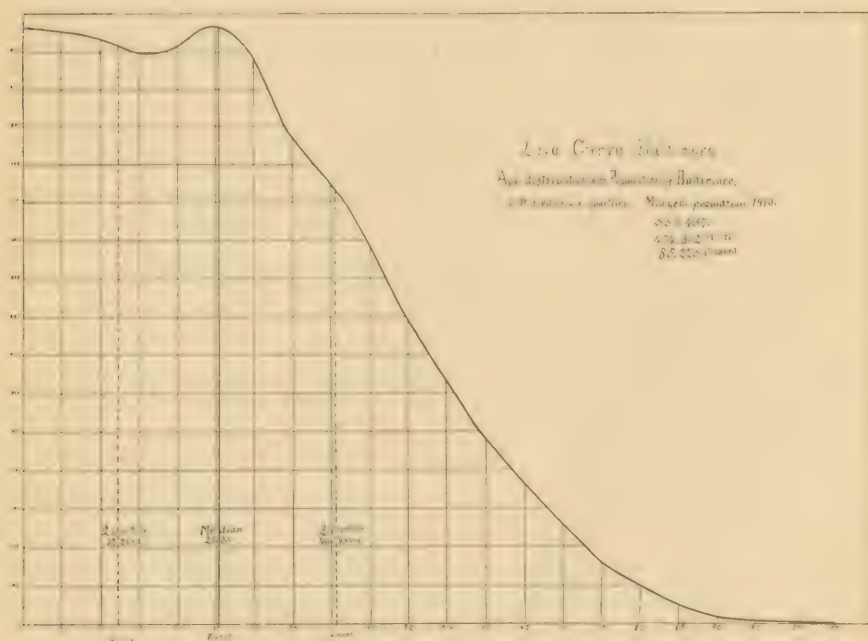


CHART No. 7.

It is not easy to show, in a diagrammatic way, the numerical relations of the living and the dead. If we should draw in this chart of the living the curve of deaths in a year, the deaths curve would appear quite insignificant; for the deaths

seldom amount to 2 per cent. of the living population in a year, and of this small fraction, about one-third would have to be plotted in the zero corner of the diagram (under the age of 5 years). The remainder of the curve, from 5 years to 100 years, would, therefore, appear nearly flat and very close to the base line. It would fail utterly to describe the mortality. On the other hand, the mortality charts previously shown tend to produce exaggerated notions of the mortality.

The tuberculosis mortality, which we are considering, is but a part of the total mortality, and it is evident, therefore, that we shall have to use some sort of magnification in order to study it in relation to the living population. A well-proportioned conception of the numerical relations of the living and the dead may be reached, by thinking of the whole population of Baltimore, first as living, and then as dead. It will be about the same thing as accounting for 560,000 persons who have died in Baltimore, or for the next 560,000 who will die in Baltimore, assuming that past experience is to be exactly repeated. The mortality curve is drawn in a solid line over the population curve (dotted line).

The chart (No. 8) shows equal numbers living and dead. Alive, they are distributed according to the dotted curve, like the preceding chart. Dead, they are distributed according to the pattern marked by the heavy black curve. The dotted line encloses the population as it now is, and shows the pattern in which the population is regularly kept by the birth rate and the immigration rate. The solid line shows the pattern to which this same population is as regularly molded by the death rate. It is the solid line pattern which we hope to change by cutting away as much as possible of tuberculosis content of the hump between the age of 15 and the age of 40. Whatever success we shall have in diminishing this part of the curve will be marked, at last, by equivalent additions to parts of the deaths curve beyond 40; but first, the intervening years of the life curve will have been enriched, and in this the profit lies.

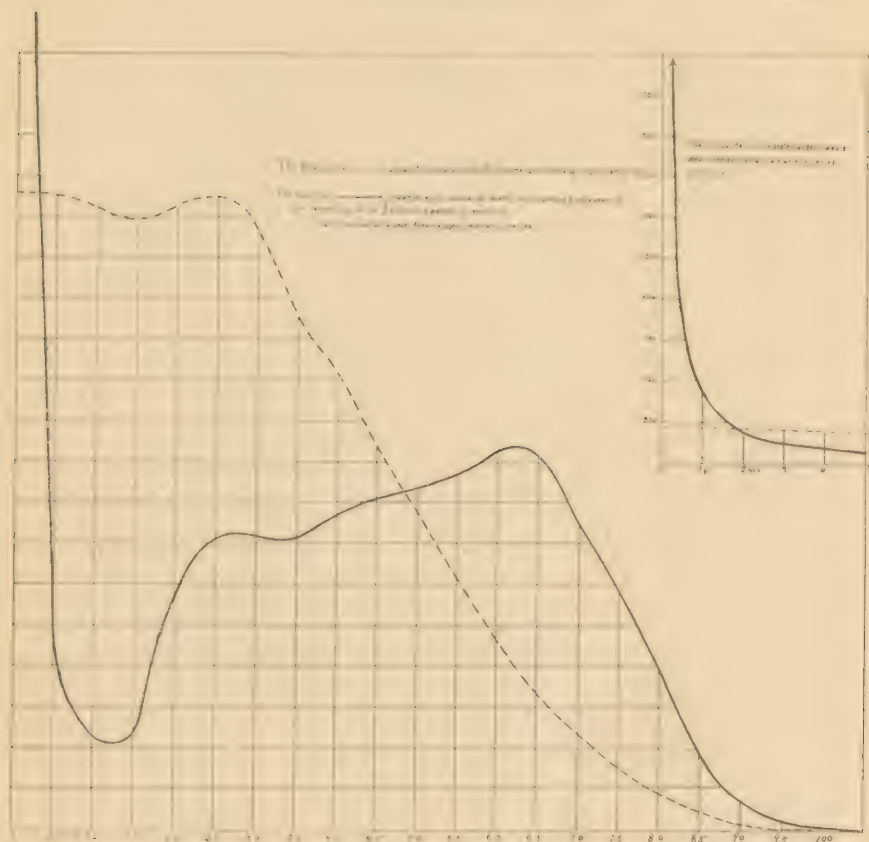


CHART NO. 8.

The next chart (No. 9) shows the total deaths curve drawn on such a scale as to permit the tuberculosis mortality to be plotted beneath the total mortality. The tuberculosis deaths curve is here seen as a very substantial fraction of the total deaths curve at all ages, but the largest fraction occurs between 20 and 40 years of age. The tuberculosis curve accounts for 1,365 deaths, and dividing them into quarters, we count 341 deaths between the birthday and the age of 22.5 years; 341 between 22.5 and 32.2 years; 341 between 32.2 and 44.3 years, and 341 above the age of 44.3 years.



CHART No 9

It will be observed that the tuberculosis curve starts downward from the age 0, and one might therefore suppose that children are born tuberculous. So they are, rarely, but the tuberculosis curve does not start in a downward direction. It appears to do so because we are not considering any measurement of time smaller than a year. If we should account for the mortality of the first year by months we should find that the curve starts at the age of two weeks, or later. A tuberculosis death at or under two weeks of age probably occurs in Baltimore as often as once in two or three years. A chart made from the figures for England and Wales in 1907 (No. 10) shows the true shape of the tuberculosis mortality in the first eighteen months. In this diagram, the deaths are accounted for, not by years, but by single months of age, and we see that the mortality of the first three months is very light, less than one-sixth part of the mortality of the first year.

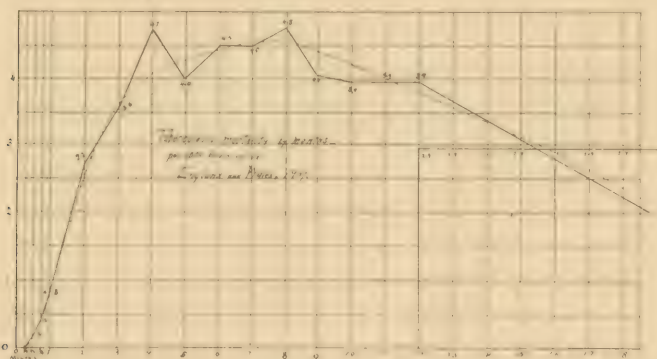


CHART NO. 10.

Another interesting view of the age distribution of tuberculosis is given in the following chart (No. 11), which shows the living cases compared with the dead of tuberculosis. Here we have plotted the ages of the dead (the same figures which

appear in the lower curve of Chart No. 9) on a more liberal vertical scale, and have plotted nearly twice as many living cases on the same scale. The height of the curve at any point is the ratio of the living tuberculous (or the dead tuberculous) at that age to the whole number of the living tuberculous (or the dead tuberculous) at all ages. We find that at ages under 10 and over 43 the living tuberculous are relatively fewer than the tuberculous dead at those ages; while between the ages of 10 and 43 the living tuberculous proportionately

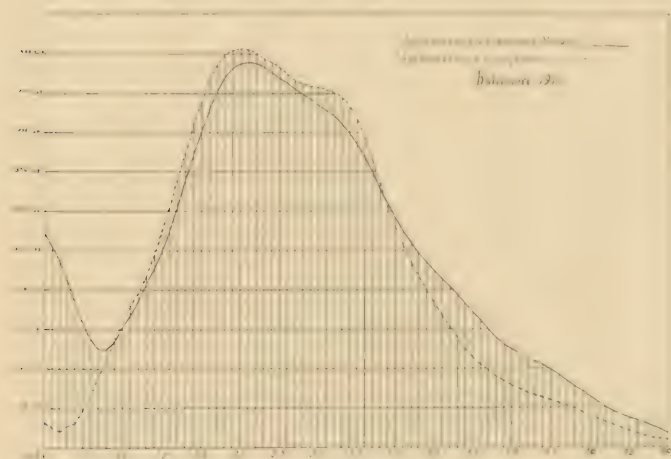


CHART No. 11.

outnumber the tuberculous dead. This chart lays additional emphasis on the importance of tuberculosis in the third and fourth decades of life. The relative excess of morbidity over mortality between the ages of 10 and 43 leads to the reflection (obvious enough, but unusual) that the pattern of the mortality curve obeys the pattern of the morbidity curve; that the morbidity curve is some years ahead of the mortality curve in youth; and that a sensible diminution of the mortality figures at any age will be preceded, at an interval of years,

by an equivalent diminution of the morbidity figures at an earlier age. The centre of effort against tuberculosis, therefore, does not lie within the range of maximum mortality, and perhaps not in the range of maximum morbidity, but probably in those early years when both morbidity and mortality are comparatively light.

We have now some formal ideas of life and of death in a great city; some sense of their relative magnitudes. We shall remember that Baltimore had, in June, 1910, 140,000 persons living under the age of twelve and a-quarter years; 140,000 between 12.25 and 25.15 years, 140,000 between 25.15 and 39.9 years, 140,000 between 39.9 and 100 years old, or older.

The deaths in this population, in 1910, numbered 2,600 under the age of 24 months; 2,600 between 2 years and 37.1 years of age, 2,600 between 37.1 years and 61 years, 2,600 between 61 and 100 years, or older.

We account for 1,360 deaths each year (4 each day) from tuberculosis. Of this number, 365 (one each day) die at a less age than 22.5 years; 365 are between 22.5 and 32.2 years old, 365 between 32.2 and 44.3 years old, 365 are older than 44.3 years.

Assuming that there are 2,800 constantly sick with tuberculosis (well within the mark), 700 of them are under 22.3 years of age; 700 between 22.3 and 30.2 years of age, 700 between 30.2 and 39.6 years of age, 700 are 39.6 years old, or older.

Let us simplify and combine these magnitudes. The tuberculosis deaths we will value at 1, the sickness at 2, the total deaths at 8. The population on the same scale will equal 420. These figures should be easily remembered. Eight deaths each year are to be expected in each 428 of the living population. Of these eight deaths, one at least will be due

to tuberculosis. This one preventable death, and two surviving cases of preventable sickness, tending to death, are the main data of that problem which the 420 survivors are asked to consider.

Not all of the 420 are able to consider the grave question of reducing this avoidable loss; for 105, or one-fourth of the number, are under the age of 13, moving rapidly and unaware into the zone of greatest danger from tuberculosis.

One hundred and five of them are older than the former group, but younger than 26 years and, therefore, in or entering the zone of greatest danger.

One hundred and five are above 26, but under 40. Most of these are well within the zone of danger, and among them is counted a large majority of the parents of the coming generation. It is this group which ripens the perennial harvest of tuberculosis and seeds fresh soil for later reaping.

The one-fourth remaining, 40 years old and upwards, and fortunate in having attained such age, are chargeable above all younger persons with the duty of interposing safeguards between their juniors and this avoidable cause of untimely death.

The good fortune, which has brought the tubercle-free members of the fourth and oldest group to and beyond the age of 40, is not largely attributable, as many suppose, to a bodily resistance acquired in the process of years. At birth there are liberal variations, no doubt, in the matter of individual susceptibility to tuberculosis; but the body should, and usually does, grow more and more resistant year by year. There is no reason to suppose that the high tide of mortality about the age of 25 is due to loss of resistance, or that the extreme low tide of tuberculosis mortality in early childhood signifies a bodily resistance higher in childhood than in later years. Given equal opportunities of infection, and exposing equal numbers at all ages, the striking differences in the age distribution of

tuberculosis mortality would seem far less important. With respect to mortality above 40, it is clear that tuberculosis is quite able to compete with the many diseases which belong to late and adult life; though it has no such pre-eminence here as among the few causes of death in youth. For those who have escaped tuberculosis, as far as the age of 40, the good fortune which we have imputed to them consists mainly in having secured their economic opportunity. Of the hopeful crowd, with which they qualified for life's great semester, they are the survivors—a sadly diminished but select company, whose turn it is to mend, as their fathers did, some chief peril of that eager course. And to no generation of fathers has opportunity appeared in a guise more compelling than the present clear prospect that the highway of youth may be successfully fenced against tuberculosis.

THE PRACTICAL BEARINGS OF THE AGE DISTRIBUTION OF TUBERCULOSIS.

The preceding considerations bring into prominence the special significance of the high range of tuberculosis mortality in the age period between 15 years and 40, and what is no less important, the low level of mortality of all sorts, especially of tuberculosis, in the age period between 3 years and 15. We have said that the low range of tuberculosis mortality in childhood does not signify that children between 3 and 15, when tuberculosis is relatively infrequent, are better endowed in bodily resistance than persons above 15, who are on the steep rise of tuberculosis to its highest frequency. On the contrary, we must assume that the human body presents a more favorable soil for the growth of the tubercle bacillus at birth than at any subsequent age. We cannot base any general explanation of the regularly observed age deviations of tuberculosis on parallel age deviations of bodily resistance. It is more logical, and it suffices, to believe that the age-distribution of tuberculosis obeys the age-distribution of chances of infection.

The mortality of infancy begins its rise in the third week of life and continues into the second year of life, when it begins to decline toward its lowest point about the age of three years. This is the history of a helpless creature, under conditions of lowest bodily resistance, narrowest space limitations, most intimate and prolonged contact with the least number of possible carriers of infection, these possible carriers belonging, however, to the high frequency infective group. The mediations of tuberculosis in infancy are parental and domiciliary, and they become less dangerous as the growing infant becomes more and more able to minister to its own necessities, to enlarge its space relations, and to diminish the number, the duration, and the intimacy of its contacts with adults belonging to the age period of high frequency of tuberculosis. With enlargement of its space relations the growing child makes new contacts, not with adults, but with children of its own age and, therefore, in a relatively tubercle-free group. At the beginning of school life the child does not materially increase its area of contact with adults, but does steadily increase the age-boundaries of intimacies with children. The next substantial increment of danger occurs when school is abandoned for a gainful occupation. The age-boundaries and the number of adult associations are greatly increased by this step, and the earlier this step is taken, the greater is the increment of danger; for there is no entry into wage-earning save in the company of the high-frequency tubercle-bearing group. That curve which is described by the tuberculosis figures from the birthday to the age of 15 or 20, describes also the progressive spreading of a child's time from the narrow space and intimate adult contact of solitary infancy to the freer space and safer contacts of active childhood; thence to the relatively tubercle-free school, with further diminution of hours of exposure at home; thence, abandoning the school, and proceeding to divide the days between the contacts of the home and those of the place of employment, both more dangerous than the school contacts.

In this view of the causes of age-deviations of tuberculosis mortality, the schoolhouse appears as a kind of asylum in the pathway of youth. That, indeed, it is—at least with respect to tuberculosis—the safest space, of daily use, that man has enclosed with walls and roof. We lay emphasis upon it because we believe that a well-planned campaign against tuberculosis should take into account, not only those social conditions which involve large numbers in the greatest danger, but also those social conditions and institutions wherein large numbers incur the least danger. The writer believes that deaths from tuberculosis are relatively infrequent in childhood; first, because children are in general ineffective mediators of tuberculosis, and second, because the period of school attendance is spent in a space less contaminated with tuberculosis than any other space occupied by equal numbers. It is altogether probable that a tactical advantage of this sort can be turned to highly profitable account.

With respect to the ages from 15 to 40, no word of doubt has been expressed as to the necessity of such provisions as the Commission recommends for the detection and the hygienic management of the tuberculous, or for the defense of those known to be in contact with tuberculosis. Within this range of years we are most sensible of the large numbers, of the great vital values, and of the heavy losses—most sensible, therefore, of the immediate and large savings to be realized in this period.

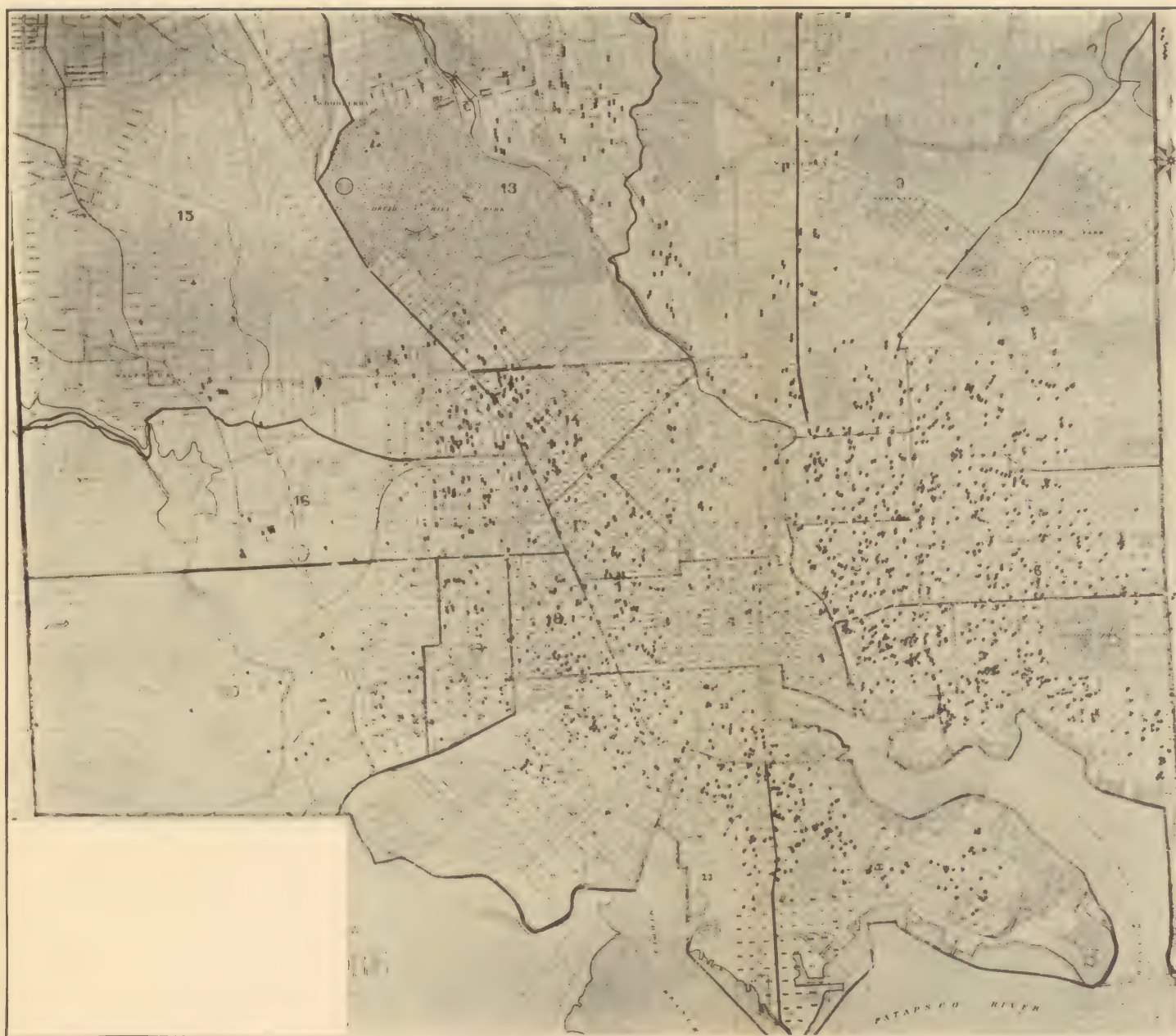
But with respect to the ages under 15, when population is in the making, the Commission is not sure that some of its recommendations are well understood or unequivocally approved. Some members of the Advisory Committee have expressed the opinion that the Commission goes beyond the essentials of the tuberculosis problem in the recommendations concerning child labor, the hygiene of the public schools, and the hygiene of infancy. We are unable, however, to escape the conviction that perfect use of the opportunities presented

in the years under the age of 15 will make the deepest possible cut in that hillside of mortality which rises beyond the age of 15. The centre of the mass of this infection lies certainly beyond 15 years of age, but well directed preventive effort will, we think, find the centre of efficiency in the earlier ages.

DISTINCTIONS OF RACE.

The following table (Table 1) shows how the neighboring cities of Baltimore, Washington, and Philadelphia compared in the years 1904, 1905, 1906, 1907 and 1908, in respect to their mortality from all forms of tuberculosis. It will be observed that Baltimore in each year occupies the middle position, having a mortality higher than that of Philadelphia and lower than that of Washington. Remembering the striking differences between Baltimore and Washington in the matter of age-distribution, Washington having relatively more people in the tuberculous period of youth, we have an explanation of the higher mortality of Washington. The lower rate in Philadelphia is not explained in the same way, for the age-distribution of Philadelphia's population is very similar to that of Baltimore. Nor is the difference of age-distribution a complete explanation of Washington's higher mortality. Washington has a larger negro population, and Philadelphia a smaller negro population, proportionately, than Baltimore; and the extraordinary susceptibility of the colored race, together with the differences of age-distribution, account for the relations in which the three cities stand with respect to tuberculosis mortality.

The testimony of all the cities is unequivocal as to the destructiveness of this disease to colored people.



MAP OF BALTIMORE. EACH SPOT IS A CASE OF TUBERCULOSIS UNDER THE CARE OF THE MUNICIPAL TUBERCULOSIS NURSES, AUGUST 15, 1910

TABLE No. I.

*The Tuberculosis Mortality of Baltimore, Washington and Philadelphia.
Death Rates per 100,000 Living for the 5 Years, 1904 to 1908.
(From the U. S. Census Report on Mortality for 1908.)*

	Baltimore.	Washington.	Philadelphia.
1904	283.4	317.1	262.8
1905	269.3	318.3	237.5
1906	270.9	291.5	259.5
1907	263.2	280.0	253.5
1908	249.9	264.0	234.1
Average for 5 years.....	266.8	310.1	240.6

In Table 2, drawn from the Mortality Report of the United States Census Bureau for 1908, sixteen American cities are arranged in the order of their tuberculosis mortality among whites, among the colored, and in the total population. Baltimore ranks between Richmond and New Orleans in the white mortality; just below Boston, and equal to Indianapolis, as to the colored mortality; and in total mortality, between Richmond and Washington. How far the havoc of tuberculosis among the negroes exceeds its ravage among the whites is strikingly shown in the middle column, where the lowest negro mortality in sixteen cities is seen to be 77 per hundred thousand higher than the highest mortality among whites in the same cities. The range of the mortality among the colored is enormous, rising from 320 per 100,000 in Richmond to the incredible figure of 1,177.6 per 100,000 in Cincinnati. This table takes all forms of tuberculosis into account.

TABLE No. 2.
Tuberculosis Death Rates Per 100,000 Population, in Selected American Cities, with Distinctions of Race.
(Monthly in 1908.)

WHITE.		COLORED.		COMBINED.	
1. Pittsburgh	124.5	1. Richmond	320.1	1. Pittsburgh	139.2
2. Galveston	131.6	2. Galveston	325.6	2. Galveston	174.6
3. Charleston	142.6	3. Nashville	426.8	3. Chicago	180.7
4. Birmingham	152.9	4. Pittsburgh	450.2	4. St. Louis	188.3
5. St. Louis	154.1	5. Washington	477.5	5. Boston	219.2
6. Washington	166.9	6. Charleston	519.5	6. Indianapolis	222.6
7. Chicago	171.3	7. New Orleans	542.2	7. Philadelphia	234.1
8. Nashville	175.9	8. Birmingham	546.4	8. New York	234.5
9. Indianapolis	183.3	9. BOSTON	589.0	9. RICHMOND	239.3
10. RICHMOND	183.7	10. BALTIMORE	599.8	10. BALTIMORE	249.9
11. BALTIMORE	198.8	11. INDIANAPOLIS	599.8	11. WASHINGTON	264.0
12. NEW ORLEANS	207.1	12. Philadelphia	672.1	12. Nashville	269.2
13. Boston	210.5	13. New York	673.3	13. Cincinnati	284.9
14. Philadelphia	211.3	14. Chicago	681.1	14. New Orleans	298.3
15. New York	225.7	15. St. Louis	702.3	15. Birmingham	322.9
16. Cincinnati	243.3	16. Cincinnati	1177.6	16. Charleston	355.8



TABLE No. 3.
Tuberculosis Mortality of Baltimore for Each Year, between 1900 and 1910; with Distinctions of Race.

YEAR.	WHITE.				COLORED.				TOTAL.			
	Population.	Deaths from Pulmonary Tuberculosis.	Rate per 100,000 Population.	Population.	Deaths from Pulmonary Tuberculosis.	Rate per 100,000 Population.	Population.	Deaths from Pulmonary Tuberculosis.	Population.	Deaths from Pulmonary Tuberculosis.	Rate per 100,000 Population.	Population.
1900.....	424,052	723	168.5	79,995	333	416.8	508,057	1,056	508,057	1,056	207.4	508,057
1901.....	433,568	781	180.1	80,437	357	443.8	514,005	1,138	514,005	1,138	221.2	514,005
1902.....	438,974	781	178.3	80,909	378	466.8	519,883	1,159	519,883	1,159	223.3	519,883
1903.....	444,590	811	183.0	81,501	375	460.1	524,101	1,186	524,101	1,186	226.3	524,101
1904.....	447,106	914	204.4	82,032	435	530.7	529,149	1,349	529,149	1,349	254.9	529,149
1905.....	451,722	811	179.5	82,595	425	514.7	534,197	1,236	534,197	1,236	231.4	534,197
1906.....	456,238	880	192.9	83,047	415	499.4	539,245	1,295	539,245	1,295	240.1	539,245
1907.....	463,754	931	200.2	83,629	480	585.9	544,293	1,440	544,293	1,440	264.7	544,293
1908.....	465,270	924	199.0	84,161	453	538.2	549,431	1,379	549,431	1,379	251.3	549,431
1909.....	464,780	909	193.4	84,603	491	579.7	554,389	1,400	554,389	1,400	253.0	554,389
1910.....	474,302	888	187.7	85,225	480	563.2	559,437	1,365	559,437	1,365	243.9	559,437

Table No. 3 gives the history of mortality from consumption (tuberculosis of the lungs) for each of the eleven years, 1900 to 1910, the mortality of the colored and whites being stated separately. It will be seen that the mortality among the colored is regularly two and a half or three times that of the whites. The colored population, 15 per cent. of the total, furnishes 35 per cent. of the recorded mortality from consumption. The heaviest mortality recorded in this table occurred in 1907, the next highest in 1904, both races reaching their high points in these years. The lowest mortality for both races occurred in the first year of the series, 1900. One should not conclude, from the circumstances that the first year of the series shows the lowest mortality in eleven years, that tuberculosis is increasing, or even that its tendency is upward. In 1900 but two sorts of tuberculosis were distinguished in the then employed classification of causes of death, namely, tuberculosis of the lungs and tuberculosis of the intestines. Nor was the tuberculosis problem very much to the fore in the public mind in 1900. The great advance of public opinion in relation to this disease began in 1903, when the first Maryland Tuberculosis Commission began its work, and it is a significant fact that the highest mark was reached in 1904, following the great awakening of public and professional feeling on this subject, caused by the Maryland Tuberculosis Exposition, held in February of that year.

The figures for the State, exclusive of Baltimore, show their highest mark in 1904, and their course since 1904 has run parallel with the figures for Baltimore city. It is certain that the figures for 1900 are too low; it is probable that those for 1901 are too low; it is likely that the figures for the last seven years of the series are quite reliable, and these show a slight downward tendency.

The average mortality of the city is greatly exceeded in two out of the twenty-four wards of the city, namely, the Seventeenth and the Third Wards. In the Third Ward, the



TUBERCULOSIS MAP OF WARD 17 AND VICINITY—AUGUST 15, 1910

excess is largely explained by density of population, relatively low average age of the people, and unfavorable economic and hygienic conditions. The population is largely foreign-born. The tuberculosis death rate probably does not greatly exceed the average for the city, but the absolute figures are much higher. In the Seventeenth Ward, however, the excess is mainly due to excess of colored population. Parts of the Fourteenth and the Eighteenth Wards, where negroes are colonized, also show excessive tuberculosis mortality. Unfavorable hygienic conditions are apt to prevail in colored residential sections, but it is doubtful if the tendency to uncleanness and overcrowding is greater among the colored than among the foreign-born at the same economic level. After granting liberal credit to all the considerations which are advanced in explanation of the extraordinary ravages of tuberculosis among the negroes, it is yet necessary to charge part of the excess to racial susceptibility, and it is reasonable to expect that this disadvantage will persist for generations to come.

The prevalence of this disease among the colored is of particular concern to the white race, because the colored of both sexes are so largely engaged in domestic service. Among 309 colored persons suffering with tuberculosis, and on the visiting list of the city's tuberculosis nurses in August, 1910, 121 were maintaining more or less intimate relations with white families as domestic servants (69) or as laundresses (52). Healthy colored people are safer from tuberculosis, no doubt, when living in the homes of white people, but the advantage to one race, in this situation, is offset by increased danger to the other. Many domestic servants do not sleep in the homes of their employers and, in this case, whatever advantage the employer gains in not providing sleeping quarters is balanced by the increased danger of sleeping quarters in a colored household.

The colored population, with its special susceptibility, furnishes the distinctive feature of the local problem of tuberculosis in Baltimore. The Commission recommends that the city provide a special hospital for tuberculous negroes. It will be said that this recommendation intends racial separation, as is deemed generally necessary in public institutions in Maryland. This consideration, to be sure, has weight with the Commission, but the gravamen of the matter lies in a clear necessity for superior, as well as separate, provision for the tuberculous of the colored race. The colored population carries a larger hazard; the colored consumptive is a more serious menace. We bury, and shall continue to bury, two white consumptives for every burial of a colored consumptive; but out of a thousand living of each race, we bury more than two colored consumptives for each white. Such is the situation in a total population which counts three colored persons to seventeen whites. Under such conditions, hospital accommodations proportionate to the numbers exposed in either race would be no more than just, though less than adequate. If the recommendations of the Commission become effective, relatively more beds will be at the disposal of the city for colored consumptives than for whites. We wish it distinctly understood that, in the opinion of the Commission, the essentials of a successful and economical movement against tuberculosis in Baltimore include both separate and ampler accommodations for advanced cases among the colored.

The racial aspect of tuberculosis was considered editorially by the *Baltimore Sun* of August 6, 1911, as follows:

A TUBERCULOSIS SANATORIUM FOR NEGROES.

"In an interview printed in yesterday's *Sun*, a physician dwells upon the necessity for separate hospitals for the tuberculous insane. This is a good suggestion, and should be carried out with regard to the colored insane as well as the white. The State having adopted the policy of taking care of its insane, that policy should be made as

effective as possible, and as effective with respect to colored as to white patients, and this is not being done when those who suffer from tuberculosis are placed in the same hospitals with those free of that disease. Nor should the matter rest with the provision of separate hospitals for the tuberculous insane. There is now no sanatorium for tuberculous negroes in Maryland, and the want ought to be supplied. Tuberculosis has made great ravages among the negroes in the last few years, and something should be done to prevent, as far as possible, its further spread. Not only should this be done on account of the negroes themselves, but on account of the white population as well. Many negroes are servants for white families and those who suffer with tuberculosis are likely to spread it among the families that give them employment. A State sanatorium for negroes suffering from consumption is demanded not only by considerations of humanity, but as a measure of protection for the white race."

The State has adopted a wise policy of caring for early and hopeful cases of tuberculosis in special sanatoria; and justice, as well as humanity, would seem to require impartial distribution of the chances of cure offered by the State to its indigent sick. The Municipal Commission does not feel called upon to advise the State in this matter, but its influence is properly added to the authoritative opinion which has repeatedly argued for special provision, by the State, for the sanatorium treatment of negroes.

The sanatorium, however, is not to be preferred to the hospital for more advanced cases. The distinction which we make does not concern the value of the sanatorium, but only its utility as an instrument of prevention, and its relation to a municipal program. The State has established sanatoria, but has not concerned itself with the hospital care of advanced cases. The city has a hospital for advanced cases, but has not thought of a municipal sanatorium. Such a division of responsibility seems fair, and profits are earned on both investments. When the two instrumentalities are compared from the view point of prevention, however, the hospital is found the more potent of the two. The sanatorium is the most expensive of all the instrumentalities for the prevention of

tuberculosis. Its profit comes from the restoration of the disabled to their working capacity. Cases suitable for sanatorium care either do not become, or do not long remain, active foci of infection, and a small profit must be credited to the sanatorium on this account. Its contribution to the immediate defense of society is relatively small, however, as compared with equal provision for the care of advanced cases: for an advanced case is a focus of infection at its highest and most enduring potency.

If we were obliged to choose between sanatorium and hospital (which fortunately is not necessary), the hospital would of a certainty be the sound choice, however reluctantly one would prefer the safety of the unhurt many to the rescue of a stricken few. It would not be the humane choice perhaps; certainly it would be against impulse, but its soundness can hardly be doubted. The results of sanatorium treatment can be confidently expected to improve wherever adequate provisions are made for advanced cases. Success depends, above all things, on an early start. That generous impulse which sends us rather to the one injured than to the score in danger, operates strongly against early admission to the sanatorium. It is impossible to exclude advanced cases, for neither professional judgment nor admission rules can regularly withstand the appeal of urgent need. Priceless chances of cure are often sacrificed on the waiting list, while forlorn hopes are spun to extinction in the sanatorium. There should not be any waiting lists either for sanatorium or hospital, but for the present such limitations are enforced upon us by the magnitude of the tuberculosis epidemic.

However generous the State may be in providing sanatoria, waiting lists are likely to be longer for whites than for colored applicants. For the insidious onset of the disease conveys no warning to the colored patient or to his associates, but passes usually to the more dangerous stages before its existence becomes known. On the other hand, hospital waiting lists of

colored patients are likely to be longer than waiting lists of whites, no matter how many beds the city may provide for advanced cases, for sick negroes are more willing than whites to resort to public hospitals.

The refractory quality of the tuberculosis problem among negroes will disappear, perhaps, when effective leadership and the faculty of response are asserted within the race. Meanwhile the destinies of both races, indissolubly joined, are in the hands of the whites, and this guardianship is hedged with penalties impossible to avoid.

ECONOMIC CONSIDERATIONS.

Dr. Marshall L. Price, when medical officer of the Maryland Tuberculosis Commission, studied the pecuniary loss resulting from the sickness and death of 177 consumptive wage-earners who died in Maryland in 1903. Among these 177 wage-earners was one whose loss in three years of illness amounted to \$8,800. This was of course the extreme case; the bulk of them were very humble wage-earners. Forty per cent of them became dependent on charitable aid in the course of their illness. Fourteen per cent. of them died in charitable institutions. The average individual loss sustained by each of these wage-earners was \$741.64.

By applying the expectancy, according to American experience, to the annual income of each individual at the age when sickness began, Dr. Price computed the potential loss. This potential loss to the community, according to Dr. Price, amounts to an average of \$8,512.52 for a wage-earning male.

Concerning the domestic side of the tragedy, Dr. Price says: "Histories of such families show that the result of such long-continued illness (three years on the average in a working male) is not only a complete exhaustion of the family treasury, but an ultimate destruction of a considerable portion of the family by the disease. There seems to be no other disease of such malign influence in its tendency to bring the family unit down to the lower levels of social and material welfare."

Professor Walter F. Willcox estimated the net loss to the State of New York, in 1907, chargeable to the mortality from tuberculosis of all forms. (*Transactions of the Sixth International Congress on Tuberculosis, Volume III, page 37.*) The assumptions are that the average male citizen of the State earns one dollar a day more than is required for his maintenance; that his net prospective earnings, during his expectancy, discounted at 3.5 per cent., will give the present value of his net future earnings; and that the net earnings of the average female amount to half the net earnings of the average male. The accompanying chart (No. 12) shows the net prospective earnings of 9,107 males and 7,373 females, charted

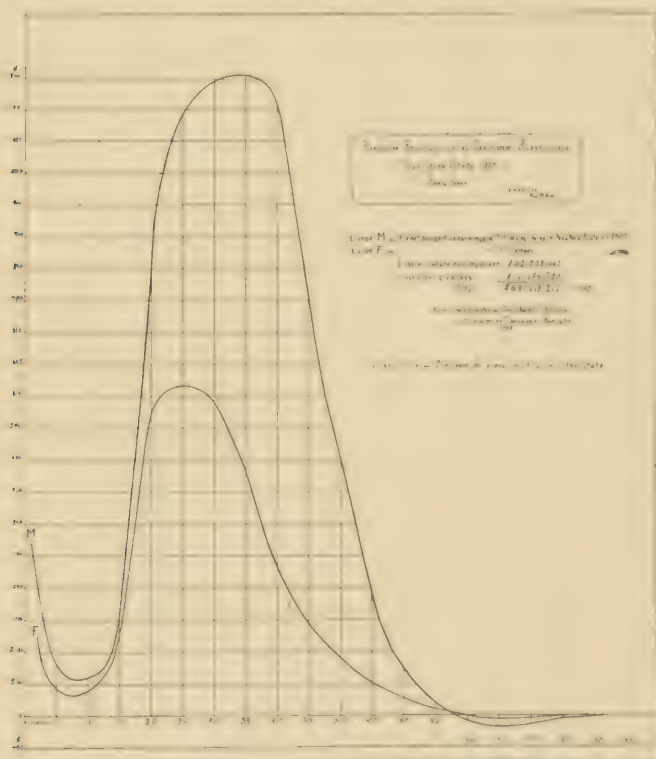


CHART No. 12.

according to their ages at the time of their death from tuberculosis in 1907. It will be seen that the curve of net prospective earnings and, therefore, the numbers dying of tuberculosis at various ages in New York, correspond quite closely to the age-distribution curve of the tuberculous dead in Baltimore. In the New York chart, the height of the curve at any point above the base line represents the present value of the money which those who died at the given age would have earned, over and above the cost of their maintenance, if, instead of dying when they did, they had survived to the age which they had a rightful expectation of reaching, according to the life tables.

The total loss for the year 1907, and on account of the net prospective earnings of those who died of tuberculosis, was \$52,233,467, and adding the cost of 16,570 cases of sickness, averaging nine months each in duration and ending in death, and amounting to \$11,184,750, gives a total loss of \$63,418,217. This sum divided among 8,424,333 persons composing the population of New York State, gives a per capita tax of \$7.50 on account of tuberculosis. Stated in years, the per capita loss was two and a half years for every child born in New York in 1907, or about 630,000 years in all.

In the next chart (No. 13) two curves are seen. The taller one is the curve of the annual earnings of males, plotted according to age. The other is the curve of average annual cost of maintenance for males, plotted in the same way. The two curves intersect at a point in youth, where the earnings rise above the cost of maintenance, and again at a point in age, where the earnings pass below the cost of maintenance. The enclosed space marked "E," and extending from 16 to 76 years of age, being diminished by the enclosed spaces before 16 and after 76, account for the \$36,652,714 net prospective earnings lost by the death of 9,197 males in 1907.

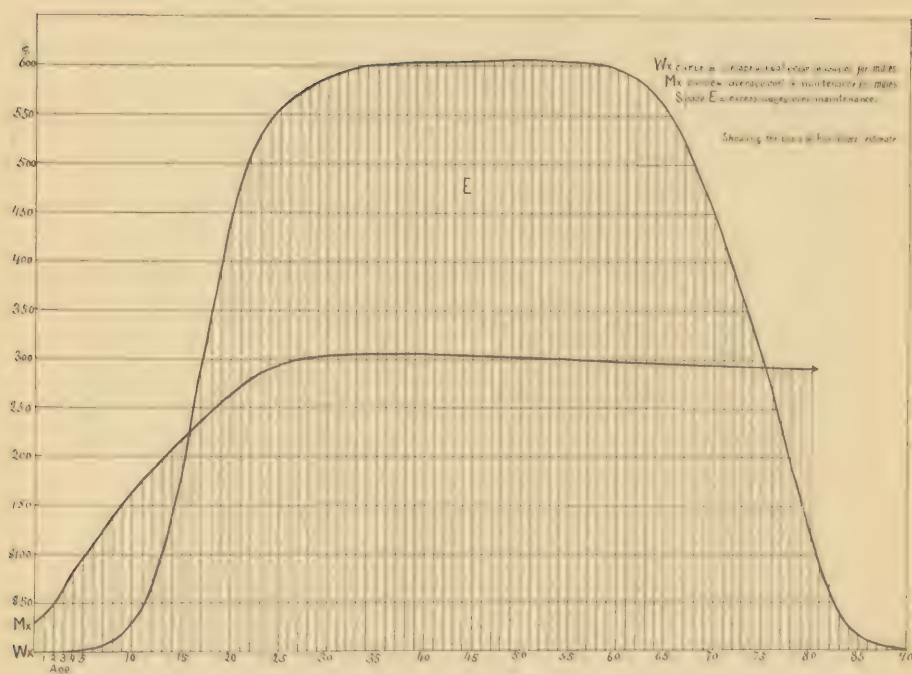


CHART No. 13.

Professor Irving Fisher has estimated the loss in years of life following the deaths of 65,208 persons in the registration area in 1906. (*Transactions of the Sixth International Congress on Tuberculosis, Washington, 1908, Volume III, page 9.*) Chart No. 14 shows two curves, plotted from Professor Fisher's tabulation. The lower curve, marked "A," represents the sum of the years lived by each age-group of the 65,208 who died of tuberculosis in 1906. The upper curve, marked "B," represents the sum of the years which each age-group would have lived if they had at no time in their lives been exposed to tuberculosis, though facing all the other chances of death. This assumption differs from that of Professor Willecox, who supposes those dying of tuberculosis in New

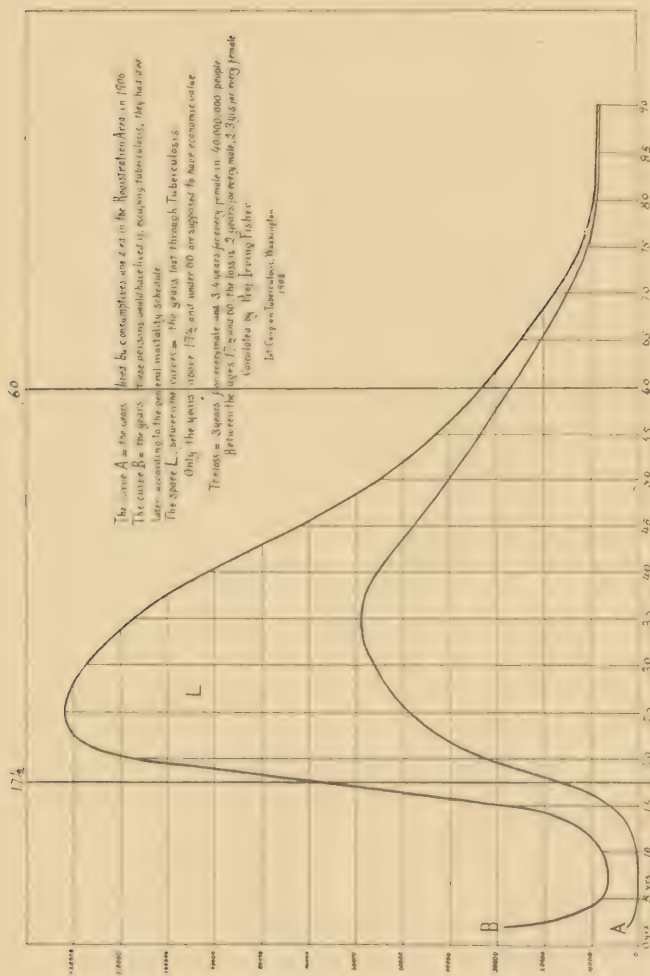


CHART No. 14.

York to have remained free from tuberculosis up to the age at which they died of it, and to have faced thereafter all the chances of death, including tuberculosis. In other words, Professor Willcox deals with a situation in which 16,570 cases of tuberculosis, actually occurring and proving fatal in 1907, are supposed not to have occurred, unless occurring after that date and in accordance with the known probabilities of death from any and all causes. Professor Fisher deals with the probable life of 65,208 consumptives who died in the registration area in 1906, in case they had not only escaped consumption, but had also lived in a population wholly free from tuberculosis, though subject to all other probabilities of death.

One should expect the loss in years of life to be larger under the conditions of Professor Fisher's calculation. According to his reasoning, the 65,208 who died of tuberculosis in 1906, lost in all 2,068,891 years. The per capita loss was 29.4 years for each male, and 34.5 years for each female dead in 1906 of tuberculosis. The effect of these 65,208 deaths from tuberculosis on the total mortality, 580,000, occurring among the 41,000,000 inhabitants of the registration area, was such as to lower the average age at death 3 years for males, and 3.4 years for females. Professor Fisher assumes that the productive years of life run from the age of 17½ to 60, and the loss of life in this period amounted to 1,381,046 years, a per capita loss of 2 years each for working men, and 2.3 years each for working women. Professor Fisher says that the most profitable way of spending public funds for the purpose of reducing the cost of tuberculosis is to invest in isolation hospitals for incurable cases.

Professor James W. Glover, of the University of Michigan, has published a table showing the tuberculosis element in life-insurance premiums in the United States. (*Transactions of the Sixth International Congress on Tuberculosis, Volume III, page 79.*) The single premium (the highest price) and the annual premium (lowest price) are considered. The two

charts (Nos. 15 and 16) are plotted from Professor Glover's figures, and show the saving which could be effected in insurance premiums if the tuberculosis element were eliminated. The solid line in each chart shows the actual price of insurance at each age from 20 to 65 years, and the broken line shows the price after tuberculosis has been eliminated. One sees that, in the annual premium, the tuberculosis cost ranges from \$1.67 per \$1,000, at the age of 20, to \$1.89 per \$1,000, at the age of 65. In the single premium the tuberculosis charge is from 24.26, at age of 20, when a policy of \$1,000 costs \$180.61, to \$7.54 at age of 65, when the policy of \$1,000 costs \$568.09. Since American old line companies regularly carry more than ten billion dollars insurance, it is easy to understand that the tuberculosis element in the premium collections of these companies amounts to at least \$12,000,000 a year.

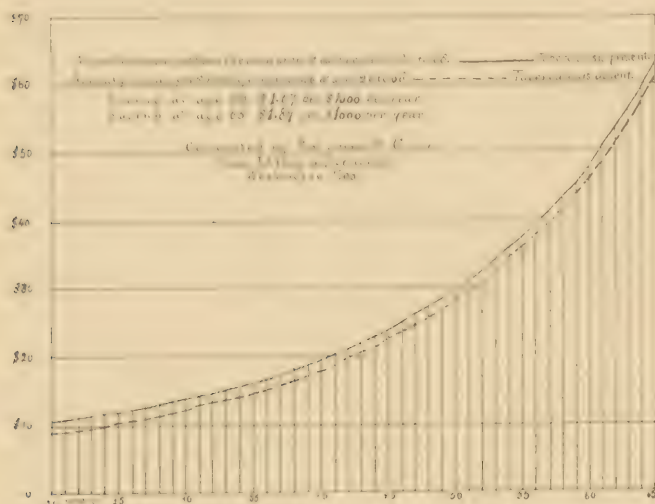


CHART No. 15.

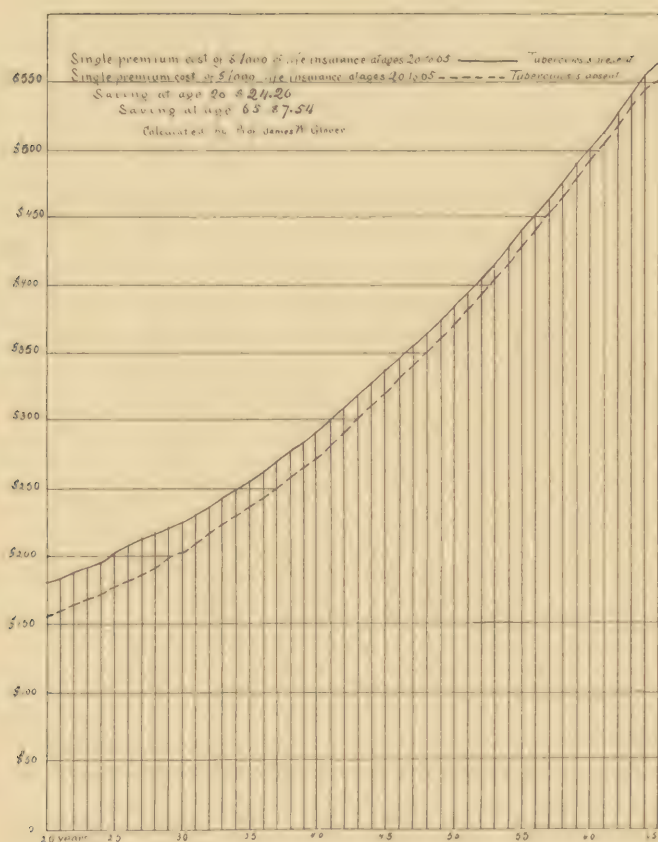


CHART No. 16.

All three of the authorities last quoted, estimated the monetary loss chargeable to tuberculosis, using different populations, and therefore, different raw figures. Professor Willcox has reviewed the three papers, applying their reasoning to the whole population of the United States. (*Special Report on Vital Statistics, State Department of Health, Albany, N. Y., August, 1910.*)

Professor Fisher's estimate placed the annual loss at \$1,100,000,000. He believes that, in determining the loss, the cost of future maintenance should not be subtracted from the prospective earnings. If he had charged the cost of future maintenance against the future earnings, his estimate would have been about \$520,000,000.

Professor Glover uses the mortality figures of the non-registration States, without any correction for their well known and gross deficiency. These figures relate to more than half (in 1900, about two-thirds) of the population of the country, and this moiety includes the bulk of the negro population. Combining the reliable returns of the registration area with the very deficient returns of the non-registration States, he far underestimates the true tuberculosis mortality. Professor Glover considers only males between 20 and 60 years of age; he takes \$100 a year as the surplus earnings above cost of maintenance of the average man; and he uses 5 per cent. as his discount factor. Under these conditions his estimate is a loss of \$42,000,000 a year for working males. If he had assumed 3.5 per cent. as discount; \$300 as surplus earnings of males; included females at half the valuation of males; taken a mortality for the whole country equivalent to that of New York State; taken account of deaths below 20 and above 60; and made allowance for reduced earning power and increased cost of maintenance during illness, his estimate would have been \$460,000,000.

Professor Willcox's calculation would have given, for the whole country, an annual loss of \$650,000,000. He included bovine tuberculosis and he assumed the cost of maintenance of a woman half that of a man. Leaving out bovine tuberculosis, and charging the cost of maintenance of females at four-fifths the cost of maintenance of males, his estimate of annual loss to the United States would be \$535,000,000.

If we take the average of the three estimates, as juries sometimes do in damage suits, we shall get \$503,000,000 as the compromise figure. This would mean in Baltimore an annual tax of \$5.80 on every man, woman and child in the city—a total annual tax of \$3,244,734.

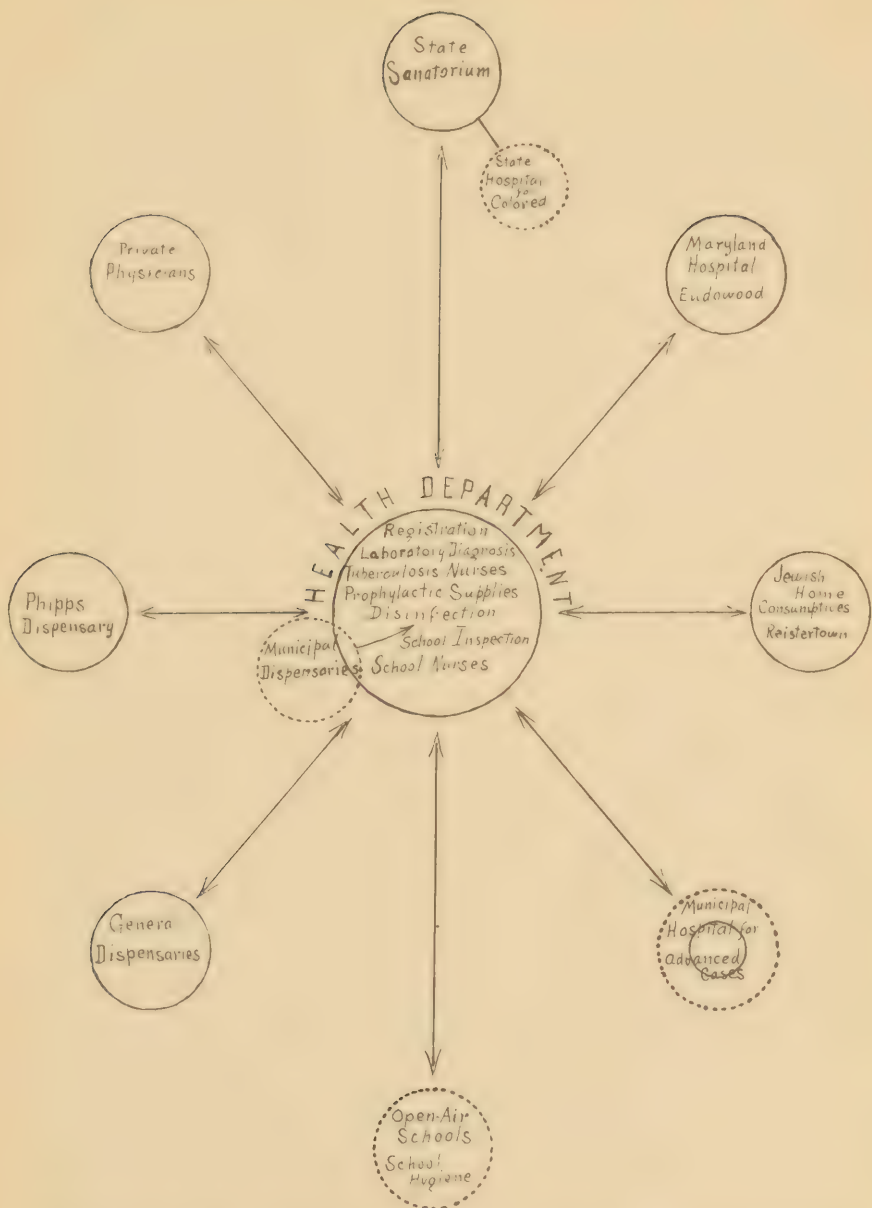
Dr. Price's careful study, in 1904, of the economic history of 176 fatal cases of tuberculosis in wage earners, led him to very definite conclusions concerning the potential loss to the State through the deaths of wage earners. He made no formal attempt, however, to apply the facts relating to these 176 instances to the whole tuberculosis mortality of the State; but he expressed the opinion that the potential loss to the State could hardly be less than \$10,000,000 a year. The potential loss means the future net production, distributed over future years, in accordance with the known probabilities of life. If Dr. Price had determined the present value of the potential loss, he would have figured a loss for Baltimore agreeing approximately with the figures here given.

When we say that the deaths from tuberculosis of 1,365 citizens a year means to the city an annual loss which, reckoned in years, amounts to 43,644 years, or, reckoned in money, amounts to \$3,244,734, that statement is entitled to such credit as men of intelligence ordinarily give to other expert statements concerning equivalent magnitudes. The error amounts to thousands of dollars, certainly; to tens of thousands, probably; and possibly to \$100,000 in excess or in deficiency of the given figures. But it is most unlikely that any basis of calculation on which five competent men could agree, would bring the estimate down to \$3,000,000, or raise it to \$4,000,000.

One consideration should be mentioned as weighty enough, possibly, to reduce the estimate of Baltimore's annual loss below three million dollars. On the assumption that the negro's economic value is less than that of a white, the value of the average individual in a population of 15 per cent. colored

(Baltimore, for instance) must be less than the value of an average individual in a population 2 or 3 per cent. colored (New York, for instance). The populations considered by Fisher, Glover, and Willcox, in their aggregate, are about 4.5 per cent. colored; and if the difference of economic value between the races, is very large, the necessary correction for Baltimore might amount to hundreds of thousands of dollars. On the extreme assumption that the negro barely carries his own economic weight, he is worth nothing, and in that case the estimate would fall about one million dollars; for one-third of the tuberculosis mortality falls on the colored race. There is no doubt about the superior value of the white, and no doubt, unfortunately, that the whites regularly experience a higher tuberculosis mortality wherever the colored element of population is relatively large.

APPENDIX



CORRELATION OF AGENCIES FOR THE CONTROL OF TUBERCULOSIS.

EXISTING—Shown by solid line.

TO BE SUPPLIED—Shown by dotted line.

APPENDIX "A."

HOSPITAL FOR ADVANCED CASES.

As shown in the account of existing institutions in Baltimore and Maryland, there are the following facilities for the care of Baltimore's advanced tuberculosis patients:

	Beds.
The Jewish Home for Consumptives (Reisterstown)....	30
Bloede Cottage (Eudowood).....	34
Municipal Hospital (Bay View).....	160
Total number of beds.....	224

This is a vast improvement over the situation as regards the care of advanced cases a few years ago. The first two institutions have been built by private effort within two years, while the Municipal Hospital dates back only to 1904. And yet the insistent demand today is for more hospital beds for this class of cases. The spread of knowledge about tuberculosis must be held solely to account for the increasing demand for beds for advanced consumptives, and just as the community becomes alive to the nature of tuberculosis and the means of its spread, does the demand for hospital care increase. The patient himself becomes reconciled to separating himself from his family when he appreciates that his presence in the home is a menace to the health of his loved ones; while the rest of the family, in addition to recognizing the danger to themselves in his presence, are assured that better care can be taken of the patient in the hospital than would be possible in the home.

Baltimore has been the centre of one of the most effective educational campaigns against tuberculosis that has been waged anywhere, so it is but natural to find that each hospital here

that receives advanced tuberculosis cases has a long waiting list, and that physicians, tuberculosis nurses, and social workers unite in demanding more provision for such cases.

Moreover, it is generally agreed, that the segregation of the advanced case is the most important single factor in preventing tuberculosis. Important as are dispensaries and sanatoria, they do not compare, as preventive agencies, with the hospital which takes care of patients during the last few helpless months of life. It is at this time that the patient is least able to practice the precautions that he may have learned, and it is then that he discharges bacilli in greatest numbers and of greatest virulence.

If a community means to wage effective warfare on tuberculosis, it will find the hospital its most useful weapon. And to make full use of this weapon, there should be provided a bed in a well-managed hospital for each patient who is willing to separate himself from his family.

At the present stage of the educational campaign against tuberculosis, it is believed that the addition of 300 beds will meet the situation in Baltimore. Yet within five years it is more than probable that these additional facilities will be outgrown.

The hospital as now planned should permit easy expansion at a later date to 500 or more beds.

The State of Maryland has undertaken, at Sabillasville, to care for early cases in a modern sanatorium, admirably adapted for this purpose. A mountain site at a distance from the city is very desirable for the care of early cases. For advanced cases, however, it is desirable that the institution be located near a large centre of population. The patient often must be taken to the hospital in an ambulance. He would be reluctant to go to a hospital at a distance from home and friends.

Thus a *State* institution favorably located, is clearly indicated for the care of early cases, while advanced cases should be cared for by *local communities*. In New York, Ohio and some other States, provision is made by law for the establishment of county hospitals for consumption. In Ohio it is provided that several counties may unite to establish a hospital.

So far as Baltimore is concerned, the care of late cases appears to be a matter that the city should undertake, just as New York city, Boston and Cleveland have done.

Under which city department should the hospital be established? There are three alternatives open:

1. The city may create a new "Consumption Hospital Department," following the example of Boston. This has been considered and is rejected as an unnatural method of procedure in Baltimore.
2. It may be under the control of the Supervisors of City Charities; or,
3. It may be under the Health Department.

The Commission has weighed very carefully the arguments for and against these last two alternatives, and has unanimously decided in favor of placing the new hospital under the control of the Health Department. The proposed hospital is for the care of tuberculosis, a communicable disease, and is identical in purpose with the present Sydenham Hospital for scarlet fever and diphtheria, which is maintained by the Health Department. Anything that would weaken the authority of the Health Department in dealing with tuberculosis would be a step in the wrong direction. Moreover, the hospital must be one in which poor people will have confidence, and to which they will resort readily. If it is under the control of the Supervisors of City Charities it will be impossible to separate it in the minds of the people from the almshouse. Every inducement should be offered to the advanced consumptive

to go to the hospital. Hospital care is offered by the community, in large part, in self protection from the disease. Anything making the hospital undesirable, such as association with an almshouse, defeats its very purpose. This has been recognized in Boston, where a new city department was created so as to separate the consumption hospital in people's minds from the almshouse. It has been recognized again in New York State, where the authority conferred on counties to establish consumption hospitals relates only to hospitals that are distinct from the county almshouse.

The same subject is under discussion in England, and no better statement of the principles underlying the problem has been made than that contained in "The Minority Report of the Poor Law Commission," 1909, Part 1:

Page 248.

"From one end to the other of the Poor Law Medical Service, costly as it is now, we find, in fact, a complete and absolute ignoring of the preventive aspect of State medicine. To the Relieving Officer it is officially a matter of indifference whether the applicant is most likely to recover, or to recover most rapidly or most completely, in the workhouse or in his own home. It is no part of his duty to consider whether the applicant's wife and children will suffer most in health by his removal to the infirmary, or by his struggling on in his avocation, with his lungs getting steadily worse, in order to avoid the stigma of pauperism."

Page 269.

"In Scotland it has even been definitely laid down by the Local Government Board that it is for the Local Health Authority to treat all cases of phthisis; and that sufferers from this disease should not come under the Poor Law at all."

Page 282.

"Indeed, it has been repeatedly given in evidence by witnesses with practical experience that the essential characteristic of the Public Health Medical Service—that it is rendered in the interest of the community, and not in order merely to relieve the suffering of the individual—actually creates in the recipient an increased feeling of personal obligation, and even a new sense of social responsibility."

Page 290—Conclusions.

"That the very principle of the Poor Law Medical Service—its restrictions to persons who prove themselves to be destitute—involves delay, and reluctance in the application of the sick person for treatment, hesitation and delay in beginning the treatment, and, in strictly administered districts, actual refusal of all treatment to persons who are in need of it, but who can manage to pay for some cheap substitute. These defects, which we regard as inherent in any medical service administered by a Destitution Authority, cause, merely by preventing prompt and early application by the sick poor for medical treatment, an untold amount of aggravation of disease, personal suffering and reduction in the wealth-producing power of the manual working class."

Page 291.

"That while domiciliary treatment of the sick poor is appropriate in many cases, it ought to be withheld:

"1. Where proper treatment in the home is impracticable;

"2. Where the patient persistently malingers or refuses to conform to the prescribed regimen;

"3. Where the patient is a source of danger to others.

"It has become imperative in the public interest that there should be, for extreme cases, powers of compulsory removal to a proper place of treatment. Such powers cannot, and in our opinion should not, be granted to a Destitution Authority.

"That where Destitution Authorities cease to abide by the limitation of their work to persons really destitute, or pass beyond the dole of 'Medical Relief,' their attempt to extend the range or improve the quality of the Poor Law Medical Service brings new perils. We cannot regard with favor any action which, in order to promote treatment, openly or tacitly invites people voluntarily to range themselves among the destitute; or which tempts them, by the prospect of getting costly and specialized forms of treatment, to simulate destitution. Nor do we think that an Authority charged with the relief of destitution, whatever its methods of appointment, or whatever the area over which it acts, or any Authority acting through officers concerned with such relief, whatever their official designation, can ever administer a Medical Service with efficiency and economy."

Page 292 et seq.

"That the Medical Service of the Public Health Authorities, which now extensively treats disease, and actually maintains out of the rates

a steadily increasing number of the sick poor, is based on principles more suited to a State medical service than that of the Poor Law. These principles which lead, in practice as well as in theory, to searching out disease, securing the earliest possible diagnosis, taking hold of the incipient case, removing injurious conditions, applying specialized treatment, enforcing healthy surroundings and personal hygiene, and aiming always at preventing either recurrence, or spread of disease—in contrast to the mere ‘relief’ of the individual—furnish in fact the only proper basis for the expenditure of public money on a Medical Service.

“That such compulsory powers of removal in extreme cases, as have been asked for, are analogous to those already exercised, with full public approval, by the Public Health Authorities; and that the proposed extension of such powers can properly be granted only to an authority proceeding on public health lines.

“That we do not agree with the suggestion that the establishment of a unified Medical Service on Public Health lines necessarily involves the gratuitous provision of medical treatment to all applicants. It is clear that, in the public interest, neither the promptitude nor the efficiency of the medical treatment must be in any way limited by considerations of whether the patient can or should repay its cost. But we see no reason why Parliament should not embody, in a clear and consistent code, definite rules of Chargeability, either relating to the treatment of all diseases, or of all but those specifically named; and of recovery of the charge thus made from all patients who are able to pay.”

THE LOCATION OF THE HOSPITAL.

The city owns two hundred and fifty acres of land at Bay View, easily accessible to the city, free from smoke and dust, and admirably adapted for the purposes of the new hospital. On the extreme western part of this land are located the present almshouse, insane hospital, and the Municipal Tuberculosis Hospital. In the centre is the Sydenham Hospital. The eastern portion of the city property would be the natural location for the new tuberculosis hospital. Together with Sydenham Hospital, it could be administered by a single superintendent. A separate entrance from the street could be provided so that there would be no association in people’s minds with the almshouse, which would be distant half a mile.

The Commission has recommended, too, that the hospital be given a name suited to its character so as still further to distinguish it from Bay View, as has been done successfully in the case of Sydenham Hospital.

THE COST OF THE HOSPITAL.

The proposed hospital should be a complete and separate institution, except that heat would be supplied from the new central heating plant, designed to supply all the buildings on the city property. Fully half the beds should be in wards of substantial construction designed for the care of bed-ridden patients, while the remainder could be in "shacks" of the character of those at the State Sanatorium at Sabillasville. The "shack" construction is simple and comparatively cheap. The administration building, kitchen, dining-room, and nurses' and servants' quarters should be built larger than merely necessary to supply present needs so as to permit the expansion of the hospital in the future. *A safe estimate of the cost of such an institution is \$1,000 a bed, or \$300,000 for an institution of 300 beds.*

USE OF THE PRESENT MUNICIPAL HOSPITAL.

The Municipal Tuberculosis Hospital of 160 beds now administered by the Supervisors of City Charities should be transferred to the Health Department when the new hospital is completed, so as to bring under one head all the city's institutions for the care of tuberculosis. This hospital is separated from the proposed site of the new hospital by a considerable distance, but as it has its own kitchen and dining-room, its administration would present no difficulty. At present whites and negroes are cared for together in this hospital. When the new hospital is completed, the present building could be used exclusively for colored patients.

There will then be under the control of the Health Department 460 beds for advanced tuberculosis.

MONEY FOR BUILDING.

A hospital plant that will be a permanent addition to the equipment of the city should be paid for by an issue of bonds, rather than out of the current tax receipts. The Commission therefore recommends that legislation be enacted permitting the city to issue bonds for this purpose to the amount of \$300,000.

MAINTENANCE.

The new hospital should be maintained on a scale sufficiently liberal to encourage patients to resort to it and to remain when once they have entered it. This means that there should be at least three physicians in residence, that there should be one nurse to each twenty patients, that the food and service should be generous, and that in every respect the friends and families of patients should be assured that the best hospital standards are maintained.

Letters sent to a number of hospitals caring for advanced cases of tuberculosis elicited these facts as to cost of maintenance:

HOSPITAL.	Beds. No. of	Cost per Patient per Day.
City and County Hospital, San Francisco, Cal.	60	\$0.91
Sanatorium of the Jewish Consumptive Relief Society, Edgewater, Col.	135	.93
Tuberculosis Hospital of the District of Columbia, Washington, D. C.	120	1.13
Hudson County Tuberculosis Sanatorium, Secaucus, N. J.	120	2.25
St. Peter's Hospital (private), Brooklyn, N. Y.	124	.80
Brooklyn Home for Consumptives (private), Brook- lyn, N. Y.	115	1.00
Philadelphia General Hospital, Philadelphia, Pa.	300	.75
Pittsburgh City Home and Hospital, Boyce, Pa.	95	1.00
St. Louis City Hospital, St. Louis, Mo.	50	.96
Riverside Hospital, North Brother Island, New York City.	98	2.13

By comparison with these figures it will be seen that the present Municipal Tuberculosis Hospital at Bay View must fall short of the standards set elsewhere for the care of tuberculous patients. In 1909 the per capita cost in the Baltimore institution was $49\frac{3}{4}$ cents. In order to maintain the standard of care that will satisfy modern requirements, an expenditure of 80 cents or more a day must be made for each patient in residence. For 460 patients, this will mean an increase in the city's annual budget of \$100,000 to \$140,000.

APPENDIX "B."

DISPENSARIES.

Institutional provision for tuberculosis is at present far below the demand, and for many years to come a very large proportion of cases of tuberculosis will need to be dealt with in their homes, both because of lack of facilities for hospital care, and because of the unwillingness of many patients to accept institutional treatment. Among the poor most of these patients will resort to the free dispensaries for treatment. Your Commission felt it important to make a survey of the system of dispensaries in Baltimore to learn how adequately they were meeting the situation today and what needs for further development exist. To this end, and paying particular attention to their facilities for dealing with tuberculosis, the following dispensaries were inspected:

GENERAL DISPENSARIES.

Baltimore Eastern Dispensary, 1300 East Baltimore street.

Baltimore General Dispensary, 651 West Lexington street.

Baltimore Medical College Dispensary, Madison street and Linden avenue.

Baltimore Southern Dispensary, 106 West Hill street.

Christ Church Dispensary, 602 South Bond street, Special Tuberculosis Clinic.

City Medical Agency, 1418 Light street.

City Medical Agency, 2242 Pennsylvania avenue.

Hebrew Hospital and Asylum Association Dispensary, Monument and Ann streets.

Johns Hopkins Hospital Dispensary, Monument street and Hopkins avenue, Phipps Dispensary for Tuberculosis.

Maryland University Dispensary, Lombard and Greene streets, Special Tuberculosis Clinic.

Medical and Surgical Dispensary, 1301 Light street.

Mercy Hospital Dispensary, Saratoga and Calvert streets.

Northeastern Dispensary of the City of Baltimore, 1224 East Monument street.

St. Joseph's Free Dispensary, Caroline and Hoffman streets.

St. Luke's Dispensary (Homeopathic), 118 West North avenue.

Woman's Medical College Dispensary, 1100 McCulloh street.

SPECIAL DISPENSARIES.

Baltimore Eye, Ear and Throat Charity Hospital, Dispensary of, 625 West Franklin street.

Evening Dispensary for Working Women and Girls, 115 West Barre street.

Dispensary of the Hospital for the Women of Maryland, John street and Lafayette avenue.

Franklin Square Hospital Dispensary, Calhoun and Fayette streets.

Hospital for the Relief of Crippled and Deformed Children, 2000 North Charles street.

Maryland Homeopathic Free Dispensary and Hospital, 1122 North Mount street.

Plaster of Paris Jackets and Free Day School for Deformed Children, Dispensary for, 237 West Biddle street.

Presbyterian Eye, Ear and Throat Charity Hospital, Free Dispensary of, 1007 East Baltimore street.

Provident Hospital Dispensary (colored), 413 West Biddle street.

Robert Garrett Hospital Dispensary, 27 North Carey street.

United States Public Health and Marine Hospital Service, Remington avenue and Thirty-first street.

Three of these dispensaries—the Johns Hopkins, the University of Maryland, and Christ Church—have special clinics for tuberculosis, and will be considered in turn later. The others, for the most part, comply with the existing rules regarding registration of their cases with the Health Department, but pay little other attention to this disease. In many of them the records were not kept in such form as would enable it to be determined how many cases of tuberculosis were seen within the year. In few of them were nurses in attendance, cuspidors provided, printed instructions relating to tuberculosis either posted or provided for distribution. In most instances patients with tuberculosis used the same waiting-room at the same time with other patients. Often the rooms were poorly lighted and poorly ventilated, and separate drinking cups were seldom found. In short, the general dispensary in Baltimore, as has everywhere been the case, falls far short of the ideal tuberculosis clinic.

The special tuberculosis dispensary, as following the lines of the one established in Edinburgh in 1887 by Dr. Philip, plays an important role as the centre of activity against tuberculosis. It has separate quarters, is light, well ventilated, and capable of being kept immaculately clean. It is attended by physicians specially qualified to diagnose and treat tuberculosis; nurses are in attendance during clinic hours, at other times visiting the patients in their homes, following up the instructions given to them by the physicians. In their visits to the homes, the nurses enforce the sanitary measures necessary to protect the other members of the family and the community. The nurses bring other members of the family who have been exposed to the infection to the clinic for examination, thus discovering many unsuspected cases. The special tuberculosis dispensary serves as a clearing house: early cases are sent to the sanatorium, advanced cases to hospitals, and insanitary conditions are called to the attention of the Health Department. There are three such special dispensaries in Baltimore.

The Phipps Dispensary at the Johns Hopkins Hospital was the outgrowth of Dr. William Osler's interest in the tuberculosis problem in Baltimore. In 1898 he raised a fund of \$2,000 to support a special tuberculosis dispensary. This was continued with great success until in 1903 the interest of Mr. Henry Phipps was enlisted, and the present separate building for the dispensary was established and endowed. The original building has been added to, so that it now provides two large waiting-rooms, eight examining rooms, a library, classrooms, and research-rooms. Nurses are in attendance during clinic hours, and in every respect this dispensary fulfills the modern conception of a special clinic for tuberculosis. It received a special prize of \$1,000 at the International Congress on Tuberculosis, held in Washington in 1908.

The Commission recommends that the Phipps Dispensary be allotted one of the four districts, into which it advises that the city be divided for dispensary purposes.

The University of Maryland conducts a special tuberculosis clinic three days a week. The facilities are inadequate, but the interest and enthusiasm of the physician in charge have overcome this handicap, and the clinic is well attended and serves well a considerable district in the city.

The Commission recommends that this dispensary be given more adequate quarters, and be assigned to serve one of the dispensary districts.

A special tuberculosis clinic was opened at Christ Church Dispensary by the Maryland Association for the Prevention and Relief of Tuberculosis in 1907. During the two years--July, 1908, and July, 1910--295 new patients were seen. The dispensary is open on Monday, Wednesday and Saturday afternoons, from 4 to 5 o'clock.

This dispensary has performed a very useful function, and is today doing very excellent work, but its location, 602 South Bond street, is in a territory easily accessible to the Phipps Dispensary, so that the Commission does not recommend that a special district be assigned to this dispensary.

In order to determine the efficiency of the various agencies dealing with tuberculosis in their homes, a tack-map was prepared, showing the distribution of the cases under the supervision of the Municipal Tuberculosis Nurses, as of August 15, 1910. On that date, 1,803 cases, positively diagnosed as tubercular, were known to the Municipal Tuberculosis Nurses, and of these, 1,241 were dispensary cases. Phipps Dispensary (818), and the University of Maryland (210), had under supervision 1,028 of these cases, so that all other dispensaries had reported to the Tuberculosis Nurses only 213 cases.

From this will be seen the immeasurably greater efficiency of the special tuberculosis clinic over the general dispensary. The dispensary cases known to the nurses, however, were not evenly distributed over the city. That portion of the city east of Jones Falls is relatively accessible to Phipps Dispensary, and a much higher per centage of dispensary cases is found here and in the vicinity of the University of Maryland than in those portions of the city more remote from these two efficient agencies.

The portions of the city least efficiently served at the present time by existing agencies are the Northwestern quarter of the city and South Baltimore. The Commission accordingly recommends that the Health Department establish special tuberculosis dispensaries in these two sections of the city, and the division of the city into four dispensary districts, as follows:

DISTRICT 1 (Eastern District)—Served by Phipps Dispensary. Including all east of Jones Falls.

DISTRICT 2 (Northwestern District)—West of Jones Falls and north of Franklin street.

DISTRICT 3 (Central District)—Served by the Maryland University Tuberculosis Clinic. Bounded on the north by Franklin street, on the east by Jones Falls, on the south by Pratt street, Frederick avenue and Frederick road.

DISTRICT 4 (Southern District)—Bounded on the east by Jones Falls and the Patapsco River; on the north by Pratt street, Frederick avenue and Frederick road to the city limits.

To a certain degree, the efficiency of supervision of living cases in their homes can be measured by the relation of cases known to the number of deaths that occur in a year. In the following table this relation can be seen:

	Estimated Population.	Total Deaths, Tuberculosis, 1909.*	Total Cases Known to Nurses, Aug. 15, 1910.
District 1.....	242,183	479	905
District 2.....	144,847	346	319
District 3.....	119,671	395	375
District 4.....	51,593	120	204

*In addition there were 150 deaths in the Municipal Tuberculosis Hospital at Bay View.

The recommendations of the Commission, in brief, are that the Health Department establish special tuberculosis dispensaries in Districts 2 and 4. In order to secure the services of competent physicians in such dispensaries as these, which would not be related to teaching institutions, it will be necessary to pay them moderate salaries. The nurses now in the employ of the Health Department will probably work most efficiently with these dispensaries if they are divided in groups, each group serving in a dispensary district. By alternating dates at the clinic, the nurses can keep closely in touch with the physicians directing the management of the cases.

The equipment of a dispensary is relatively simple, and existing buildings which can be rented cheaply can readily be converted into fairly satisfactory quarters for this use. The Health Department of Pennsylvania has recently had experience in opening 115 tuberculosis dispensaries in various

communities throughout that State. The following extracts from a letter from Commissioner Dixon gives the essentials of equipment.

"The equipping of the ordinary average dwelling house into a dispensary building is a matter of difficulty or of ease, depending on the condition of the building when the conversion is undertaken. The cost has been found to vary considerably in different parts of the State, depending upon local conditions. This Department has felt that where the service would warrant the expenditure, our dispensary walls should be carefully covered with an oil paint making a washable surface; that all cracks in the floors should be either filled and the floors painted or the floors themselves covered with linoleum or similar floor covering. We have adopted as our standard equipment the articles following:

LIST OF ARTICLES FOR DISPENSARY.

- (1) A sectional filing cabinet for the storage of dispensary records.
- (2) A proper system of blank forms for the making of records.
- (3) Chairs in number sufficient to accommodate the number of persons likely to be in the dispensary at any one time.
- (4) Scales and measuring rod.
- (5) For examining room—Ordinary kitchen table (one or more), one or more couches for the purpose of cardiac and abdominal examinations, or upon which any exhausted patient may lie down.
- (6) A small equipment of instruments for simple examinations of the nose and throat.
- (7) A supply of screens in order that patients may disrobe in preparation for examination with a degree of privacy.
- (8) Instruments for measurement of chest, such as tape line and calipers.

In some instances high examining tables have been found very useful.

(9) Ordinary round stools of 18 inches and 36 inches in height have also been found of value. The patient can be seated on a high stool and examined by a physician without assuming an uncomfortable position. The physician may stand, or sit on lower stool.

(10) Some of our dispensaries have been supplied with apparatus for determination of blood pressure.

(11) If the dispensary is supplied with a sufficient number of closets for all storage purposes, well and good. If not, it is necessary to procure wardrobes or cabinets for this purpose. A set of pigeon holes or bins for storing of blank forms is of great convenience.

"The above covers the standard equipment. In a few of the larger dispensaries the Department has installed apparatus for the more special treatment of nose and throat conditions. The nature of this apparatus depends largely upon the needs of the specialist in charge of this work, every man having his individual preference.

"In selecting a house for dispensary work, we in one instance succeeded in finding a building so arranged that each physician could be assigned two small rooms for examining purposes. This has been found to work an economy of time and effort at that dispensary, the nurse preparing the patient for examination while the physician is busy interviewing a patient in the second room. In this way the physician can give his time to ordinary work and not be delayed while patients are disrobing or clothing themselves.

"A small desk of some sort is almost essential in the dispensary. In our work we have found a desk which fits on top of a sectional filing cabinet to answer the purpose very nicely except in larger dispensaries. Needless to say, a supply of stationery, such as pens, paper, ink, etc., is necessary and such housekeeping utensils as are necessary for the janitress to keep the dispensary in proper condition."

The development of a comprehensive plan of dispensary provision for tuberculosis has proceeded farther in New York than in any other city. On the island of Manhattan and in the Bronx, there are today twenty-one special tuberculosis clinics, many of them conducted in connection with the general dispensaries of the larger hospitals, but several of them run by the City Health Department independently of other medical institutions. The city is divided into districts, in each of which is one of these special clinics. The policy of the health department is to supplement the work of the private agencies by establishing a health department clinic in any district not adequately served by existing agencies, in much the same manner as the Commission recommends in the case of Baltimore. Within a few years the New York clinics have combined in an Association of Tuberculosis clinics for the better correlation of their work. A study of the situation recently made by this Association has resulted in a set of recommendations to the various clinics which are here given for the guidance of the system of dispensaries which we hope soon to see established in Baltimore:

RECOMMENDATIONS.

CLINIC HYGIENE.

That tuberculosis cases while awaiting admission to the clinic-rooms be separated from the other dispensary patients, either in a separate waiting-room, or in a separate portion of the general waiting-room;

That in all waiting-rooms, where tuberculosis patients wait, large signs in several languages be displayed, giving detailed information as to caring for the sputum;

That sputum cups be furnished to all patients by each clinic to take home;

That either paper or gauze handkerchiefs be given by the registrar, or clerk, to each patient at the time of his admission for use at the clinic;

That suitable receptacles be provided in the waiting-room and in each clinic-room for soiled paper or gauze handkerchiefs;

That no cuspidors be used;

That sanitary drinking fountains, or sanitary paper drinking cups be provided for the use of tuberculosis patients;

That furniture, as well as floors, be washed daily;

That gowns with sleeves be worn by physicians while on duty in the clinic-rooms;

That nurses wear either gowns with sleeves or washable uniform while on duty in the clinic-rooms;

That patients be masked with gauze during the time they are being examined by the physicians;

That capes of washable material be provided for each patient while disrobed and awaiting examination.

CLINIC FACILITIES.

Space.

That the tuberculosis clinic proper shall have not less than three rooms, one for interviewing and two for examining patients, one for men and one for women;

That in case the clinic-room, or rooms are not available outside of clinic hours, another room shall be available for private conferences between the social worker or nurse and those patients requiring relief;

That in connection with the clinic, there shall be two closets, one for physicians' coats, and one for the gowns worn by physicians and nurses, and for the necessary clinical supplies.

Equipment.

That the interviewing room shall contain a sink with hot and cold water, at least two desks or tables (one for the physician and one for the nurse), a filing cabinet for records, scales, extra chairs for use of patients while waiting to have temperature and pulse taken, a suitable receptacle for soiled gauze or paper handkerchiefs, a metal screen; a map, showing the various clinic districts. In a screened-off portion of this room there shall be a full equipment for the examination and treatment of throats, consisting of a lamp, compressed air apparatus, head mirror, laryngoscopic and rhinoscopic mirrors and the necessary instruments, sprays and solutions;

That each examining room shall contain an examining table, chairs, metal screens and a sink with hot and cold water.

Staff.

That the number of physicians in attendance shall be sufficient to allow at least fifteen minutes for the examination of every new case exclusive of the time given to history taking, and at least six minutes to the examination of every old case;

That there shall be one nurse for every 100 patients on the clinic registrar.

GENERAL POLICY OF ADMINISTRATION.

That each clinic shall arrange for a physician to visit and treat in their homes those cases who are too ill to attend the clinic;

That special provision be made for the treatment of children by the establishment of children's clinics wherever the size of the clinic would seem to warrant it;

That "special class" work be introduced into all of the large clinics by classifying patients and treating them in separate small groups;

That a uniform procedure be adopted regarding the time at which cases are transferred from one clinic to another;

That a uniform procedure be adopted regarding the frequency of re-examination of sputum;

That all cases be re-examined at least once a month and the result entered on the records;

That the physicians use the nurse's report of home conditions as a basis for advising patients;

That the rule to transfer all cases living out of the district of the respective clinics be more strictly enforced;

That a uniform procedure be adopted, limiting the time for continuing delinquent cases upon the clinic records;

That clinics connected with general hospitals shall endeavor to secure a few beds therein for the use of clinic patients in emergencies, or while being held under observation for diagnosis, e. g., during the administration of the tuberculin test.

Records.

That a uniform system of record-keeping and record-filing be adopted by all of the clinics;

That a uniform system of record-keeping and record-filing be adopted by all of the day camps;

That a uniform system of record-keeping be used by the nurses, in order to facilitate the compiling of monthly reports;

That a record of the condition upon discharge be kept for all patients;

That the classification of the National Association be employed for recording stage of disease and condition on discharge.

Nurses.

That all supervising nurses shall be affiliated with some local relief organization, in order to better organize the relief work of the clinic;

That all nurses engaged for work in the tuberculosis clinics shall have had training in social work;

That if nurses are employed, who are without training in social work, they shall be required during the first month of their employment by the clinic, to give a certain portion of their time to the work of one of the recognized large relief societies;

That the home of every patient be visited at least once a month;

That a clerk be provided in those clinics where the clerical work of the nurses interferes with their more specific duties.

Cost.

For the equipment of each of the new dispensaries, the Health Department will need to make an initial outlay of \$500. For the annual maintenance of a dispensary, the sum of \$2,500 will be needed, distributed as follows:

Two physicians at \$600.....	\$1,200 00
Rent of building.....	600 00
Heat and light.....	70 00
Janitor service.....	480 00
Medicine	50 00
Stationery, telephone and supplies.....	100 00
Total.....	\$2,500 00

Accordingly, the Commission recommends that there be included in the next annual budget these appropriations:

For equipping two dispensaries.....	\$1,000 00
For maintaining two dispensaries for one year.....	5,000 00
Total	\$6,000 00

APPENDIX "C."

SPECIAL WORK FOR NEGROES.

"Let us now consider tuberculosis in the negro race. For the year ending October 1, 1907, I reported sixty deaths from tuberculosis in Dorchester county. Of these deaths twenty-nine were of whites and thirty-one of negroes. It will be noted that in a relative population of one to three, more negroes actually died of this disease than whites. I am stating a well-known truth when I say that the poverty of this race (as a rule) is abject. To this poverty and shiftlessness now add tuberculosis, and you have a picture not in my power to depict. The popular conception of the hearty, robust, powerfully developed negro is largely one of the past. Debilitated by vice and disease, their ability to withstand fatigue and hard work has vanished with their former regular hours of work and rest, with proper food and proper clothing. They are especially the prey of lung diseases. With them it is a feast or a famine. They are absolutely, as a class, without ideas of personal or domestic hygiene. Often have I visited their cabins at night to find five or six sleeping in one bed, male and female, young and old, sick or well, huddled into one small room, perhaps 10 by 12 feet, with doors and windows closed, a hot fire roaring, and one or more coughing and expectorating with every breath. Under such death-dealing surroundings, with fully thirty per cent. of both sexes enervated by specific disease, is it any wonder that I have seen cases go through all stages to hemorrhage and death in five or six weeks. I beg to say that nothing more hopeless, more horrible, more deadly can be conceived than tuberculosis under such circumstances. To many of you who are familiar with the negro only as the dignified butler or coachman, the well-dressed maid or tidy nurse, these statements may seem extreme, but to those of the rural districts my words only bring to mind many similar experiences."—*Dr. Guy Steele, in a paper read before the Fourth Maryland Conference of Charities and Correction, May, 1908.*

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The problem presented by tuberculosis among negroes in the city is probably more serious than the situation in the country districts described by Dr. Steele. The negro is consigned to the poorest houses in the city, where he is denied

the light and air that in the country he cannot entirely escape, while the distractions of urban life lead him to spend more of his income on self-indulgence and less on the requisites of healthful existence. As a consequence, the death rate from tuberculosis among the colored population in cities is extremely high, usually about three times that of the white population. Baltimore proves no exception to this rule, the number of deaths from tuberculosis among whites in 1909 being 909, while in a colored population, one-sixth as great, there were 491 deaths from this disease.

With almost, if not quite, the largest negro population contained within one city in the world, Baltimore faces a serious problem in dealing with tuberculosis. Both in institutional provisions for patients and in dealing with cases in their homes, the complications of dealing with the poor of two races must be overcome. And any neglect to meet this situation does not alone affect the negro. The presence of this large element of the population in intimate contact with the whites is a menace to the health of the entire people. The servant, or nurse-maid, who comes each morning from a home reeking with filth and infection, is a carrier of danger into homes where cleanliness should have created immunity to tubercular infection. Often the very servant herself is suffering from tuberculosis, and the household to which she comes is exposed to immediate infection. Of 309 negroes with the disease, known to the Municipal Tuberculosis Nurses, on August 15, 1910, 69 were household servants and 52 were engaged in laundry work, a total of 121, who were brought daily into dangerous contact with whites. So, self-interest, together with humanitarian motives and an enlightened interest in the health of the city as a whole, combined in dictating an aggressive policy in dealing with tuberculosis among the negroes of the city.

The Commission, therefore, recommends that special effort be made to induce negroes to take advantage of the special hospital and dispensary facilities provided for tuberculosis.

It is the universal experience of medical institutions, that the negro hesitates to place himself in their care. In the case of tuberculosis, the onset of the disease is so slow, and in the beginning there is so little of the "misery," which alone will drive a negro to seek skilled medical aid, that few of them resort to the dispensaries and very few present themselves in the early stages of the disease. The proposed dispensary in the Northwestern District will be located in the midst of the largest negro population in the city, and by offering a readily accessible means for diagnosis and treatment, it should go far toward solving the problem of getting in touch with negro patients, particularly if an effort is made through the leaders of the race to create a favorable feeling toward the municipality's new machinery for dealing with tuberculosis. This favorable attitude on their part can in a measure be secured by fair and humane treatment in institutions of the two types that are at present available for white residents of Baltimore. Accordingly, the Commission recommends that on the completion of the proposed municipal tuberculosis hospital, the present building at Bay View be used for colored patients and be administered by the same authorities controlling the new hospital. This will increase the hospital provision for negroes from about 30 beds to 160 beds. The same effort should be made, through high standards of maintenance, to keep this hospital attractive to patients, as has been insisted upon in this report in the case of the new hospital for whites.

The Commission further recommends that the State make some provision for the sanatorium treatment of early cases of tuberculosis among negroes. At present, the State Sanatorium at Sabillasville does not admit negroes, nor are they admitted to any private institution in the State. The effort

to secure the hearty co-operation of negroes in the tuberculosis campaign will be more likely to succeed if patients from that race are treated on the same basis as whites, and the knowledge on their part that sanatorium beds are available for the treatment of early cases will undoubtedly have the effect of increasing their willingness to resort to private physicians and dispensaries for diagnosis. Since few early cases are discovered at present among negroes, and moreover, as their power of resistance to the disease is slight, making the prognosis in most instances unfavorable, it is thought that a very few beds will meet the demand.

The Commission respectfully refers this question to the Board of Managers of the Maryland Tuberculosis Sanatorium, in whose hands has been placed the care of early cases in the State, with the recommendation that provision for at least forty negroes in the early stages of the disease be provided.

APPENDIX "D."

PROVISION FOR CHILDREN WITH TUBERCULOSIS.

Increasing attention is being given to the problem of tuberculosis among children. While the mortality from tuberculosis below the age of fifteen is low, it is pretty certain that infection has often occurred; then that uncared for will develop later. Various efforts have been made to arrive at the number of school children infected with tuberculosis, but no reliable statistics are available. The number with open tuberculosis that is capable of spreading bacilli, is undoubtedly very small. Children having the disease in this marked form should certainly be excluded from the schools, where their presence is dangerous to other children and probably harmful to themselves. A few such children will be found to be suitable for sanatorium treatment, while some will be so far advanced as to need hospital care. The Commission recommends that suitable wards be set apart for the care of children, both at the State Sanatorium at Sabillasville, and at the new Municipal Tuberculosis Hospital, so that it may be no hardship to exclude these children from the schools.

Of the 172 children with tuberculosis, known to the Municipal Tuberculosis Nurses, in August, 1910, but few fell in the class of children who would be a menace to other children in the same school. Most of these children fall within the class that the outdoor school is caring for economically and successfully in many cities. The outdoor school may be conducted in a school yard, on the flat roof of a school building, or in a schoolroom with the windows removed. These schools have been successful, not only in caring for slight infections of tuberculosis, but anaemic, underdeveloped and backward children have been found to improve in health and in their studies if kept in the open air.

The Commission recommends that the school authorities establish outdoor schools in sufficient number to accommodate the children found by the school medical inspector and by the dispensaries in need of this special treatment, and further recommends that in the planning of each new school building, definite provision be made for one or more open-air rooms.

